THE

NEW HANDMAID

TO

ARTS, SCIENCES, AGRICULTURE, &c.

CONTAINING

1. Monthly Obſervations in the Orchard, Kitchen and Flower Garden.

2. Obſervations in Huſbandry.

3. The art of Breeding and Managing Canary Birds, &c.

4. Complete Farriery, or Rules for the Management of Horſes.

5. The Vermin Killer, containing Methods to prevent and deſtroying Bugs, Fleas, Lice, rats mice Piſmires, Flies, and all other Kind of Vermin: Alſothe moſt rare Secret how to catch Fiſh; and the Method to mak Bird Lime.

6. The whole art of Painting in Oil and Water Colours: alſo, the whole art of Gilding with Gold and Silver, and mixing water colours, &c.

7. Directions for making of Colours for divers purpoſes, in the art of Painting Prints with Water Colours.

8. The Myſtery of Dying Silks, Stuffs, Cloth, Thread, Nanheep, Turkey Red, Cotton and other Things. To ſtain Wood, Horn, Leather, &c. of various colours. To extract Lake, and other curious colours, from Flowers, Herbs, Seeds, &c. together with many curious Receipts for taking Spots, Stains, Pitch, Tar, Grease, Wax, and Ironmould out of Silks, Stuffs, Linen, &c. alſo to recover faded Colours, with many other Things worthy of Note.

TO WHICH ARE ADDED,

A CURIOUS COLLECTION OF

MISCELLENIOUS ARTICLES.

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NEW HANDMAID, &c.

BOOK I.

Some OBSERVATIONS on GARDENING.

GARDENS are ſeldom remote or by themſelves, but near dwelling houſes, and the ſituation thereof ought to be in a free open air to the eaſt and ſouth, by the ſouth eaſt is beſt, and the north defended by tall trees, by the houſe, or indeed by both, which is better than hills, for hills to trees are not ſo good, becauſe they give too great a reflection of heat in ſummer, and likewiſe hinder the cool ſerene air that often comes from thence. Tall trees break the wind and fierce air, that in ſpring and ſummer damage the moſt delicate plants and flowers, affording moſt pleaſant ſweet air and ſhades in hot weather.

As to your ground, the quality thereof ought to be enquired into; and it is a great happineſs to enjoy good ground for it will yield more than that which is mended at great coſt and charge. The quality of your ground is to be regarded

as whether it be ſoft or ſtrong, light, dry, or moiſt; and how to chooſe proper trees to plant it withal; alſo what ſort is proper to mend theſe that grow on dry, warm ground and make them bear the beſt ſorts of fruit. Thoſe that grow on moiſt ground produce large fruit, tho' not ſo pleaſant or well taſted as the former: as you may obſerve in wet or dry years. All land proper for wheat, barley, rye, beans, peas, &c. are kindly for orchards: the moſt improper is extreme hot, and dry ſands; and on the contrary, grounds that are very wet and cold.

In ground that is moiſt, don't dig your holes too deep, but heighten your ground, and be careful before you plant your trees, that you cut the roots that ſhoot down, more eſpecially the pin roots; or elſe you muſt put buſhes underneath, that the water ſhoot off, and the roots ſtrike not too deep in the cold earth. The upper ground is always the beſt, for what is deep in the ground has not felt the heat of the ſun, nor received the ſweet moiſture of rain or dew.

That an *Orchard may always bear Fruit plentifully*,

To do this, you may obſerve when there is an eaſterly or north-eaſterly red wind, for that is accounted a blithing one; if you live near heathy ground, then in ſummer dry four or five hundred turfs; but if not, take three or four arms full of ſtraw, hay, or fern, not too wet nor dry, and obſerve which way the wind blows in your orchard, where laying a armful of mucky ſtraw in divers places, according to the bigneſs of your orchard, get ſome dry ſticks light them, and put under your ſtraw; when kindled, it will ſmoke and ſmother, and the wind will carry it over the whole orchard. This continue til the wind turn about weſterly, and it certainly kills caterpillars, flies and vermin that blighting winds bring; other winds do no harm; obſerve but this, and you ſhall have plenty in the worſt of years; and thus you may preſerve your wall fruit from froſts.

Mr. Blith writes, that land not worth 3s, an acre, hath been made worth 5l. in a few years; that is to ſay, boggy lands, if you plant willow, ſallow, and ſuch like, if it is drained deep.

And

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And that a gentleman planted 100 aſhes, and lived to ſee them ſold for 500, at 50 years growth.

And that, if you cover cherries, plumbs, or other fruit trees with rough canvas, or other cloth in ſummer, and wet the cloth often, it will keep the fruit back a long time, that you may have it when others are gone.

As for ſeeds and roots, and all other matters requiſite to be known, I refer you to peruſe The following Monthly Obſervations.

The miſcariages and diſappointments that are met with in planting, proceed, firſt, from want of knowledge, which are the beſt and propereſt ſorts of plants for fruit, and often uſing the worſt. Secondly, for want of their being well ordered and managed after they are planted. Thirdly, ſome ſeaſons of late have proved bad, and ſpoiled fruits, tho' the greateſt care and ſkill have been made uſe of.

To remedy theſe inconveniences, endeavour to find out ſuch gardeners as will deal faithfully by you, and ſuch as have judgment to know the vaſt difference of fruit, for there are ſeveral ſorts of fruit, which ſome call by one name, and ſome by another; and miſtakes of this kind often cauſe a quite different one to be ſet, not proper for your purpoſe, being neither proper for your ſoil nor expoſure, and ſeldom or never come to maturity; nay, tho' you have the beſt, if the ſoil and expoſure be not proper, they may grow, but will not arrive at that perfection or maturity which thoſe do that are ſown or planted in a proper and agreeable ſoil; therefore let your gardener be acquainted with the aſpect of the wall you deſign to plant againſt, as alſo the height and extent of it, and what ſort of earth it ſtands on, whether hot and dry, or cold and moiſt, that he may regulate and furniſh the whole plantation with trees proper and neceſſary.

The well ordering and managing of trees to be chiefly regarded; for if you plant againſt any old wall, where other trees have died the year before, and put them juſt where the others were; it is great odds but your expectation is fruſtrated. Or if it be a new wall, if the earth it is ſet in be not good and proper, tho' you fill up the borders with good earth, yet when the root is paſt the good earth, it will return back again and ſo yut fruit will be ſmall, and have little taſte or goodneſs. Therefore uſe a proper depth and width, with good

earth,

earth, and let your fruit trees be carefully planted, and headed in their proper times and ſeaſons, and likewiſe watered in ſummer, with the borders cleared from weeds: let nothing be ſown by them, as beans, peas, &c. nor yet any flowers, for all theſe ſuck away the nouriſhment from them, and be ſure and let all your fruit trees be well pruned, and the fruit carefully picked and looked after, or you will never obtain what you expect.

As to the ſeaſons, when you have uſed all your endeavours to plant and graft according to the nature of your ground, the various ſeaſons (either too much rain or too much cold) give quite a different turn to your fruit; ſometimes it will prove ſmall, ſometimes watery, and of little or no value; nay, you would ſcarce believe the ſame trees could produce ſuch different fruit: therefore, if when you have uſed the proper means your expectation is fruſtrated, what muſt be the fate of thoſe whoare careleſs, and perhaps plant pears, apricocks, peaches, &c. not regarding the ſeveral aſpects againſt the wall which is required; as when they ſhould plant againſt the ſouth, they do it againſt a north-eaſt wall, &c. Likewiſe obſerve in trees you are to plant againſt a wall, you do not plant them for dwarfs, for then they will not come to their due perfection.

Great allowances muſt be made for the ſickleneſs of the ſeaſon, the diverſity of ſoils and climates, which are almoſt numberleſs, and to the nature of the tree and ſtock, and to the way that trees grow to the greateſt perfection: theſe are things that require mature conſideration, and a quick apprehenſion, to balance the opinions of proper judges.

It is a great matter to know the nature of the ſeveral ſoils, their infirmities, and their proper remedies, with the application required to invigorate exhauſted mould, ſweeten the foul and tainted, and reduce the ſour, harſh, ſtubborn, dry and over moiſt and diliated earth to its genuine temper and conſtitution; and what ſituations and aſpects are moſt proper for the ſeveral ſorts of dwarf, ſtandard, and other fruit-trees.

The requiſite qualifications of a a good gardener are ſuch as theſe, viz. He ſhould be a middle-aged man, vigorous and active, one of experience and a large capacity, diligent, honeſt,

neſt, and good-natured, which are qualifications neceſſary for every perſon.

As for the expoſure of gardens, if they be of a ſtrong earth that is cold, to be expoſed to the ſouth is beſt; if light and hot, then the eaſt is counted beſt; the northen aſpect in England is beſt for baking fruit; the eaſtern expoſure is ſubject to the north eaſt wind, which whithers the leaves and new ſhoots, beſides eaſtern wall-fruit have little benefit of the rain, which generally comes from the weſt; and as the eaſtern expoſure is ſubject to north-eaſt winds, ſo the weſtern ſuffers by north-eaſt winds in ſpring; and the fruit in autumn is often blown by them; and as all expoſures have their advantages and diſadvantages, it requires ſome conſiderable prudence and ſkill to prevent the latter.

As to the weather, in ſcorching hot weather, (ſays Pliny) to burn cray fiſh, i. e. water crabs, in ſeveral parts of your garden, under your vines, is a good remedy.

To *prevent young trees from being peeled by Hares, Rabbits, or other animals.*

Take tar, which mix with any kind of greaſe, and boil it over the fire, ſo as both may incorporate, then with a brush daub over the ſtem of the tree as high as they can reach; do this in November, and it will ſecure the trees for the whole year, it being the winter time only when the feed on the bark.

For Froſts in a Garden.

Smoke ox or goat's dung forthwith in your garden of chaff.

Help againſt Ruſt or Vermin.

Make a great ſmoke with ox dung, and let it fly with the wind over your garden.

Againſt thick Miſts and Fogs.

Hang eagles in the middle (or at the four corners) of your garden; or burn heaps of chaff, weeds, or ſhrubs, and the ſmoke will help.

Againſt Thunder, Lightning, and Blaſts.

Hang iron or horſe-ſhoes on the trees.

N. B. The Gardeners in the northern part may obſerve, that nearly one month according to the ſeaſon, is always later than the ſouth part of this iſland.

JANUARY OBSERVATIONS.

In your orchard this month lay bare the roots of fruit-trees in open weather, nouriſh them with good rotten ſoil; prune thoſe trees that are to ſtand, and tranſplant the younger; prune and nail up wall-fruit; now cut the vines cloſe, moſs the trees that are encumbered, with a copper ſcraping iron; gather cions and grafts, and turn your dunged ground.

In the kitchen garden lay heaps of good mould mixed with dung, to rot againſt ſpring, for your uſe; and if the weather be open, ſet yearly peas and beans; ſow the ſeeds of radiſh, ſpinnage, charviſe, lettice, corn-ſallad, and make up your hot-beds to ſet things in, that are to be forced and come out of their natural ſeaſon.

In the flower garden, now is the time to preſerve the July flowers and auriculas from ſnow and over-much wet, by laying the pots or boxes on one ſide they are planted in, ſupport mat coverings over on hoops, arch-wiſe, about a foot from them; yet, if the ſun ſhine clear, once a week air them, by opening in the middle of the day; but by no means forget to cover them again as ſoon as the ſun be much declined; and now and then looſen the mould, and ſcatter freſh, mixed with a little dung on the top.

FEBRUARY OBSERVATIONS.

In this month take care to cover the roots of your fruit trees that were laid open the month before; plant, if the weather be open, and towards the latter end of the month, and graft pears, apples, plumbs, cherries, and cleanſe the trees of defects left undone in the laſt month.

In the kitchen-garden continue to ſow and ſet beans and peas, radiſhes, parſnips, aſparagus; remove cabbage-plants and potatoes, Jeruſalem artichoaks, winter early colliflowers; ſow parſley, ſpinage; and other pot herbs that will endure the weather; raiſe hot beds for muſkmelons and cucumbers, &c. ſow the ſeeds in them at full moon, ſteeping them in a little warm milk, you may put three ſeeds in a hole, cover them till they come above ground, then air them as the ſun is favourable, but cover them at other times.

In the flower-garden ſow in mellow earth, auricula ſeeds in pots, but not too thick; keep your choceſt flowers in pots or

caſes warm, with tilted coverings; the weather being open, this month you may plant early anemonies; ſow choice ſeeds in warm mellow mould, and keep every thing as much as may be, from too much wet and cutting ſharp air.

MARCH OBSERVATIONS.

In the orchards proceed to graft choice fruit, as nectarines, apricocks, wall-plumbs, peaches, and the like; raiſe the earth about the roots of choice trees; lay layers of young ſprouts, cutting them underneath, that they may take root; enrich the earth you lay them in, that they may do it very ſoon; ſtake and bind up the weak ſhrubs and plants, that are apt to be much ſhaken and looſened by the wind.

In the kitchen garden ſet ſlips of ſage, roſemary, lavender and thyme; ſow leeks, radiſh, endive, ſuccory, parſnips, beets, ſkirrets, ſorrel, parſley, bugloſs, burrage, charvil, lettice, onions, garlick, purſlain, peas, carrots, turnips, cabbage, marjoram, creſſes, fennel, ſtring ſtrawberrey beds; place glaſſes over your melons and cucumber plants, till you remove them from the hot beds; tranſplanting medicine herbs.

In the flower-garden, ſow ſweet william, auriculas, wall-flowers, ſtock gilliflowers, candy tufts, venus looking glaſs, French honey-ſuckles, cow ſlips and primroſe ſeeds, lark-heels, campions, linchins, campanula, Indian ſcabious, pink or gilliflower ſeed, &c. and in your hot beds, French marygolds, amaranth, Naſturtium Indicum, Mirabilis, Peruviana, the ſenſible humble plant, &c. Tranſparent gilliflowers and auriculas, if the weather be favourable, weed after a gentle ſhower; earth-up unremoved gilliflowers and auriculas.

APRIL OBSERVATIONS.

In the orchard cut cions for grafts; take ſuccory from the roots of grown trees, earth upon the roots pretty high; ſmoke your orchard in the evening with wet hay or ſtraw, ſcattering pitch or brimſtone on it, to prevent inſects biting of the tender buds, and morning froſts from nipping them.

In the kitchen garden ſow hyſſop, marjoram, baſil, thyme, lettice, ſcurvy graſs, winter ſavory; ſlip ſhrubs after a ſhower; ſow radiſh, marygolds, carnation, &c. ſlip artich cake, la-

vender, thyme, roſemary, ſet French beans, and remove tender ſhrubs.

In the flower-garden, now the ſeaſon requires you to ply your taſk to the purpoſe; continue hot-beds for exoticks, that without them cannot be brought to perfection, and remove not into the air, till the common earth can give them a ſufficient warmth; take out India tuberoſes, and divide their off-ſets from them, but beware in doing it, you break not the phangs; put them in natural rich earth in pots, ſo plung your pots in a hot bed, moderate warm, but water them not till they ſpring up; in dry weather when they are well ſprung up, water them freely, and blowing in Auguſt, they will produce a curious flower; ſhade your beſt tulups from too much heat of the ſun, as alſo your ſeedling auriculas, or the later will grow near to die; if any of them be ſtripped, remove them from the reſt, leſt they inſect them, and make them change their natural colours, and this month continue weeding.

MAY OBSERVATIONS.

In your orchard now begin to inoculate, as you find your buds prompt and ready, which take off the middle ſprout; ſmoak your orchard ſtill as before, for now flies and catterpillars are much abroad.

In the kitchen-garden, thin your ſalladding and other herbs, that what remains may grow more kindly, and nouriſh better; leave the ſtrawberry beds, that the flowers and knitberries may have the better benefit of the ſun; ſtrew lime and pot aſhes to deſtroy inſects in the partitions, alleys, or ſides of the beds or furrows.

In the flower-garden, tranſplant Flos Africanos, Amaranthus, Naſturtium, Indicum, Marabilia Peruviana, and ſuch like choice flowers; gather the ſeeds of anemonies as the dew riſes, leſt it be loſt by the winds blowing it away; ſow hot aromatick herbs, plant ſtock gilliflowers in beds, and ſuffer not weeds to feed. Let your mucal ſtraw ſmoak thro' your orchard, when the wind is eaſterly, or N. E. hinder blights and kills vermin.

JUNE OBSERVATIONS.

In the orchard, inoculate apricocks, nectarines, peaches

cherries, apples, plumbs, pears, and gathering ſuch fruits as the ſeaſon produces, for drying, candying or preſerving, and for the preſent uſe of your table.

In the kitchen-garden gather ſuch herbs as you would keep dry for uſe all the year, in the full of the moon, when the ſun has dried the wet from them; ſow lettice, charvil, radiſh, diſtill aromatic plants, water well after ſun-ſet.

In the flower-garden, tranſplant autumnal cyclamen; gather the ripe ſeeds of choice flowers; inoculate jeſſamine, roſes and roſe-ſhrubs; take up anemonies, ranunculas and tulip roots, ſo keeping them in dry boxes or ſand, that they do not mould nor rot, till you may replant them; lay July flowers, which will in ſix weeks ſtrike root, ſo that you may tranſplant them into light loamy earth, mixed with good rotten ſoil, and in winter, to ſave room, preſerve them from too much wet; and with good gilliflowers are now blown, preſerve them from ſeed, ſuffering them to have but a few layers, ſo the pods will be filled with the fairer ſeed; take not ſeed from thoſe that break their pod, and e'er you gather it, obſerve the ſun has well ripened it.

JULY OBSERVATIONS.

In the orchard, water your plants and layers of trees, prune peaches and apricots, leaving the moſt proper ſhoots for bearing, ſo that they may commodiouſly ſpread on the wall; ſtop the luxuriant branches of vines, at the ſecond joint above the fruit.

In the kitchen-garden, ſet ſweet herbs you would have run to ſeed; ſow lettice, radiſh, charvil, and other ſallads, that may recruit the ſtock that is waiſted.

In the flower-garden, ſlip ſtocks and other woody plants and flowers; lay myrtles, jeſſamines and other greens, and make trial of orange trees, for if they take they will certainly be more during, and leſs ſubject to be hurt by cold; lay gilliflowers that were not ready for it before, and cut off withered ſtalks or flowers; clip the box if out of order; ſow anemony ſeeds in fine ſifted rich earth, in beds or boxes; take up early autumnal cyclamens, and as ſoon as may be, replant them in fit ſoil; gather early cyclamen ſeeds, and preſently ſow it in pots; the end of this month ſift your off-ſet beds

of tulips: as also for anemonies, ranunculas, &c. ſo that the be well prepared for planting with ſuth things as you have ready in pots, or to ſet in natural ground, till the next ſeaſon; as Mirabilia Peruviana, Naſturtium Indicum, and obſerve, that every thing in your garden be well cleanſed and ordered

AUGUST OBSERVATIONS.

In the orchard, take away branches that are incumbering or ſuperfluous; prune ſuckers, and if you inoculate in this month, let it be early.

In the kitchen garden, ſow colliflowers and cabbage for winter; plant alſo marigolds, corn ſallad, lettice, parſnips, carrots, onions, ſpinage, angelica, curled endive, ſcurvy-graſs, columbines, lark heels, iron-coloured fox gloves, hollihocks, and the like, tranſplant lettice for winter ſtore; take up full grown onions, garlic, &c. gather pot-herbs for keeping all the winter, and to preſerve others growing; clip them about a handful high before the full moon; ſow charvil and purſlain, and gather the ripe ſeeds, berries, or ſhrubs.

In the flower-gardens; tranſplant bulbs or lillies, and other bulbous roots that are to remain in the ground; and now you may ſecurely remove, lay perrennial greens, and new auricula pots; tranſplant and divide their roots into a light, rich earth: do the like by oxlips and choice primroſes; alſo campions or linchins, carcidonices; tranſplant ſeedling anemonies; ſpider-wort, colebicums and fritillaries, and begin to make up your garden for the winter.

SEPTEMBER OBSERVATIONS.

In the orchard in dry weather, begin to gather ripe winter fruit, do not till the ſun has exhalted the moiſture, that if ſo, they'll ſpeck and rot; have a dry loft to lay them in, in wheat ſtraw or ſhavings; pinch them not in gathering, for that rots them.

In the kitchen-garden you may continue to ſow radiſh, ſpinage, lettice, and winter herbs; tranſplant moſt herbs proper for eating or medicines; alſo aſparagus roots, ſtraw-

berries and artichokes; clear your alley and turn up vacant grounds.

In the flower-garden, take care of the choice plants and flowers, and cover ſuch as you remove not into the conſervatory before the end of the month, if the weather come ſharp, and preſerve your Marum Syriacum, Ciſtus, Nocte Olens Germanicum. Fios Cardinalis: choice ranunculas, ſeedling arbutus, anemones, the covering of mat or canvas, being warm or cloſe; but arch wiſe a foot before them, not to preſs or injure them; place them, if in pots or caſes, againſt a ſouth wall, and let them ſtand ſometimes arifing in the middle of the day, when the ſun ſhines till April; this month plant tulips and bulbous roots that are not very choice, but the choiceſt reſerve to the end of the next month; ſow auriculas, croeus, cowſlips, primroſe ſeeds, and ſcatter a little unſlacked lime and powder of brimſtone among the moulds, to prevent inſects deſtroying the ſeed.

OCTOBER OBSERVATIONS.

In the orchard, this month prune what is wanting, looſing the earth about the roots of trees, the better to enable them againſt the cold; plant and tranſplant ſuch trees as have their leaves fallen off, alſo tranſplant wall-trees that are of two years grafting or more; at the end of this month, you may lay bare the roots of old unthriving trees, or ſuch as bloom over haſtily, or have their fruit dry; the beſt time is in the moon's decreaſing; ſow onions before gathered and kept in ſand till now; ſet them three inches deep, the ſharp ends uppermoſt; cover them with fern or ſtraw, againſt the cold blaſt, but in the ſpring remove it.

In the kitchen-garden, ſow ſtill winter fallads and roots; dig and trench the grounds, laying it light in the ridges, that the froſt may mellow it: prepare dung for the trenches, to mix with the mould in the ſpring, and trench your alleys for the rain or ſnow water to paſs away, that it may not lie ſobbing to cauſe ſterility in the earth.

In the flower garden, ſet ſuch choice tulips as are not yet diſpoſed; ſow all their ſeeds; plant anemonies and auriculas in prepared earth; and as ſoon as they appear above grounds cover them from froſts, or they die; remove the choiceſts

gilliflowers, where they may be ſheltered from the wet and ſharp winds; trim them up with freſh mould, and cover ſuch as cannot be removed, leſt the ſnow deſtroy them.

NOVEMBER OBSERVATIONS.

In the orchard, be careful to ſupply your neceſſary with ſtocks for grafting: lay bare the roots of old fruit trees, and lay warm dung about them; moſs and prune them.

In the kitchen-garden, turn up the melon and cucumber ground, mixed with dung; lay the mould in ridges, that it may mellow againſt the ſpring: trench and fit up your ground deſigned for artichokes, crop aſparagus, and cover it well with dung or wet litter, and prepare your beds to plant it in the ſpring; ſow and ſet early peaſe and beans.

In the flower-garden, cover peeping ranunculas, and ſaw auricula-ſeeds: plant fiberous roots; as aletia frutex, roſes, ſyringas linaz, &c. And ſee that no tender roots, that cannot be conveniently removed, be uncovered.

DECEMBER OBSERVATIONS.

In the orchard, plant vines and ſtocks for grafting, prune trees that are well grown, and ſtandards, alſo wall-trees bearing fruit.

In the kitchen-garden you may yet continue to ſet or ſow early peaſe or beans, trench ground, and dung it, that to you may take commodious borders in the ſpring; you may now, if the weather be open, tranſplant your fruit trees ſuch as be hardy, but not thoſe that are too much ſubject to be pierced by the cold winds.

In the flower-garden, take care that your anemony, ranunculas and gilliflowers, that are choice, be not expoſed to the wet, ſharp winds, or nipping frofts; but if the weather be open, ſet the beſt ranunculas in a bed of old rotten thatch or ſtraw, which have been mixed with choice mould that is rotted, and near turned to earth, with good mould above and below them; ſet in a rich loamy mould the beſt anemonies; let it be finely ſifted through a wire ſieve, and this done, you will have time to refreſh yourſelf, and, for a while, reſt from your labour, to enjoy in due ſeaſon the profit and pleaſure of it.

BOOK II.

OBSERVATIONS on HUSBANDRY.

HAVING already treated of gardening, and directed the gardener how to order matters for every month in the year, I come now in the next place to direct the husbandman in the management of those affairs that are properly under his cognizance.

The first point of husbandry is, to prepare the ground; the second, to plough it well; the third to dung it well. The ways of doing this are divers, according to the nature of every soil and country. Only take notice, that all great fields are tilled with the plough and shear, but the lesser with the spade.

The season of the year, and the weather also is to be observed the ploughing of the ground: you must not plough in wet ground; nor yet after very little rain; this is, if after a great drought, a little rain falls which has not gone deep, but only wet the upper part: for the ground ought to be thoroughly mellowed, but not too wet, for if it be too wet, you can expect but little benefit that year: you must therefore observe that the season be neither too dry, nor too wet; for much dryness will hinder it from working well; because either the hardness of the earth will resist the plough; or if it should enter, yet it will never break the clods small enough, which will be hurtful to the next ploughing. But if your first ploughing has been in a dry season, it will be necessary to have some moisture in your second stirring, which will make also your labour the more easy. When the ground is rich and wet withal, it is to be stirred when the weeds are full grown, and have their seeds in the top, which being ploughed so thick, that you may see where the coulter hath gone, utterly destroys them: besides, through many stirrings your fallow is brought to so fine mould, that it will need very little harrowing when you sow it. And so much depends upon the well ploughing of the ground, the husband must try whether his ground be well ploughed or not; for otherwise the

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balks being covered with mould, he may be eaſily be deceived; to be certain therefore, let him thruſt down a rod into the furrow, and if it pierce alike in every place, 'tis a ſign the ground is well ploughed, but if it be ſhallow in one place, and deep in another, the ploughing is faulty. If you are to plough upon a hill, you muſt not plough up and down but over thwart, for ſo the inconvenient ſteepneſs is to be avoided, and the labour of men and cattle made more eaſy. But then you muſt be careful not to plough alway one way, but ſometimes higher, and ſometimes higher, working aſlope as you ſee needful.

As to the ſeaſon of the ploughing, it muſt be chiefly in the ſpring, the ground being in the ſummer too hard, and in the winter too dirty; but in the ſpring, the ground being mellowed is the moſt eaſy to be wrought upon; and the weeds are then turned in, and being plucked up by the roots before they are ſeeded, will not ſpring again, but help to enrich the ground. And therefore the middle of March is uſually the beſt time to begin ploughing. But yet if the ground be light and ſandy, it may be ploughed in the winter, if the weather will permit. A ſlender and level ground, ſubject to water, ſhould be firſt ploughed in the end of Auguſt, and ſtirred again in September, and prepared for ſowing about the middle of March. The light hilly ground is broke up by the ſun, and have no goodneſs remaining in it, being barren and without juice. But this ſhall ſuffice to be ſpoken of breaking up the ground.

Now if your ground be barren and cold, producing ſtore of weeds or ruſhes, to bring to moderate hate, and ſo it make it fruitful, let it be manured with lime. The lime-ſtones may be had among quarries of ſtones, and in divers other places, and you may burn them in a kiln, in the moſt convenient place you have, to ſave the charge of carriage; and when you have ſanded your ground and backed it; make your lime ſmall, and on every acre beſtow thirty or forty buſhels of lime ſpreading it and mixing it with earth and ſand very well; and the ſtronger and ſharper the lime is, the better the earth will be, and you will find your improvement anſwer your labour. And here note that it is no matter what colour your lime-ſtones are, whether white or gray, ſo that they be but ſharp and ſtrong in quality,

to

o give a good tincture to the earth, it being the ſtrength and goodneſs of the lime, and not its beauty, that produces the profit. It is a great helper to a cold, clayey, wet ground. Such grounds are alſo very much helped by laying dung, or any ſoil that is fattening, either of cattle, or ſuch as is caſt out of pond-lakes, or muddy ditches, for barren and hot earth can never be overlaid with good manure, or compoſt, for that warms the earth, and it is the want of warmth makes it unfruitful.

As for the hacking and ſanding before mentioned, the firſt is, after the ground has been turned up with the plough, to go over it with a long hoe, or hack, and cut in pieces, the graſs which you ſee turned up with the ridges or furrows, or any uneven lumps, that it may be dragged away, burnt, or carried together with the weeds, not to grow up again to encumber the corn. And ſanding it, to bring loads of ſand, and lay them in convenient places. ſpreading them lightly, or thick, as you ſee occaſion over the ground, that the lime mixing with it, may the better imbody with the mould, and ſoak in with the rain, in the heartning the ground, and producing a good crop.

But beſides what I heve already mentioned, there are ſeveral other ways of manuring land; I will mention ſome of them for the huſbandman's better information. But here I will not be amiſs to take notice, that what will do well for one ſort of land will not do at all for another; and therefore in manuring of land, regard muſt be had to the nature of it; as for example, for a barren clayed ground, lime and ſand is excellent to mauure it with, for a barren ſandy ground, good marle is much more proper. If it be aſked what this marle is, I anſwer, it is a rich ſtiff clay, an enemy to all weeds that ſpring up themſelves, and gives a generative virtue to all ſeeds that are ſown in the ground, it is of a glewy ſubſtance, in quality cold and dry, and was earth before it was marle, and being turned into marle, it is nothing but a rich clay of diverſe colours, according to the ſtrength of the ſun, and element where it is produced. This is ſo good manure, that well laid on, it will enrich the barreneſt ground for ten years, and ſome for thirty. To find it take an auger whemble, made to hold many bits, one longer than another, till you have tried, by drawing the earth into

one

one place, then produce, the moſt proper places are in the loweſt parts of high countries, near the brooks and lakes, and in the high parts of low countries, upon the knowls or little hills, and in the clefts of ſteep banks, or branches in hills opening themſelves; in ſome places it lies deep, in others ſhallow, and commonly bare a ſandy grounds are verged with it, lying very deep. Having found it, dig it up in great lumps, and lay in heaps a yard diſtance one from the other, and when it is dried; ſpread all the heaps, many mix the marle with the ſand. But becauſe this is not ſo eaſy to come by. I will ſpeak of others more general, that will enrich any poor ſand, or clay for grain, with leſs trouble and coſt than before.

Woollen rags are very profitable for manuring and enriching of land, a ſackful and a half being ſufficient for dreſſing an acre of arable ground. The way of uſing them is to chop them very ſmall, and ſpread them an equal thickneſs over the land before the fallowing time, and then coming to fallow, let the plough take 'em carefully into the ground, and cover them.

Shavings, or waſte horns, or hoofs of beaſts, are very good to manure land withal; ſcatter the ſhavings in the ſame manner. Theſe will keep the grond in good order, like quantity as the rags, and plough 'em in after heat for five years together, without any renewing. The hoofs of cattle are approved for this, and may be had of trotter and tripe-meat &c. and muſt be uſed as the rags and ſhavings. Soap aſhes, when the lye has been drained from them is of excellent uſe in this caſe, and has beſides the property of killing weeds and inſects that breed in the ground, and eat up the corn. The hair of beaſts enriches land, being ſtrewed and ploughed in, and there let lie to rot. Alſo malt duſt is much available to this purpoſe, allowing three quarters of it to acre. And to enrich your dung on the lay-ſtall, is to throw often bean broth, and other waſte broths upon it, as alſo ſoap ſuds; and in ſo doing, one load will be worth three of the ſame kind that is not ſo uſed. But ſo much ſhall ſuffice as the manuring of the ground.

In ſowing of your ſeed, let your grain be the beſt, and ſcatter it according to the art of good huſbandry, and let your

your ſprinkling be a medium, not too much, not too little But to make the ſeed proſper the better, ſteep it in thick ſlimy water that drains from dunghills, and if no ſuch be to be had near hand, ſteep cow-dung in water, and ſoak the ſeed in it: wheat will be well ſoaked in 18 hours; barley in 36; peas in twelve but rye and oats may be ſowed dry; for that agrees beſt with them.

But when the ſeed is ſown, all is not done; you muſt take care to prevent the deſigns of that will make void all your labour, and deſeat your hopes; or elſe, tho' you have ſown your corn, you ſhall never ſee it come up; rooks, crows, and daws, are great devourers of grain, who will be ſure to be about you, when you go to ſow; to keep theſe at a diſtance ſhoot ſome of them, and hang them upon poles in divers angles of your field, ſtick their ridges of the land; and lay train of gun-powder, and blow the powder up or let it lie ſcattered in the moſt frequent places, and the ſcent of it will make them forſake the field; eſpecially now and then ſhooting a little. You may alſo take great numbers of them, by placing brown paper, twiſted taperwiſe, like thoſe on ſugar loves, in holes of the earth, the broad top coming even with the ground; bird lime the inſide, and ſcatter ſome grain in it, and then the fowl putting in his head to take it out, the paper ſo limed will ſtick cloſe, and riſe with him, when being blindfolded, in amaze he will fly up a great height, and will fall down again; ſo that if you be near at hand, he may eaſily be taken. Alſo the ſcattering nux vomica, mingled with paſte, if taken by them, as it ſeldom miſſes, will make them ſo ſick that they will forſake the field. If you lime your corn, they will forſake it; and ſo they will, if it be ſteeped in water wherein wormwood has been boiled, or infuſed; or elſe ſprinkling the corn with the dregs of bitter oil; and it will do the like by making them to caſt it up ſick, and ſo not deſirous of any more: And theſe with hanging bunches of feathers on lines or ſticks, that the wind may dangle and twirl them about, may help to preſerve your corn when newly ſown; and this laſt alſo may be uſeful when it is ripe. But theſe directions relative only to fowl; who, notwithſtanding all you can do, will be ſure to come in for a ſhare with you.

But there are, other deſtroyers of your corn beſides birds; which you muſt likewiſe take care to deſtroy; amongſt which are the piſmires or ant, who will do a great deal of miſchief by biting off the chits or ſprouts, ſo that it will never grow, but rot in the ground; To prevent this, ſearch the corn fields well, eſpecially under the hedges, and the roots of hollow trees or on the cops of hills caſt up, and if find them there, put your limed water ſtrong and hot among them. For want of lime, make a lye of wood aſhes, and it will do the ſame, 'tho not ſo effectualy.

Another devourer of corn are your dores, or great black beetles, which lie under the clods, and in ſprouting time do much miſchief: To deſtroy theſe, make great ſmoake in your fields, in a ſtill night, or when there is a little breathing wind that may carry it over the ſurface of the ground, with wet-rubbiſh, or mouldy pea ſtraw, hay, or ſuch like, and it will kill them, or chaſe them out of the ground; for they are of all other creatures, the greateſt enemies to ſmoke, and can leaſt endure it. But if your ground be limited, or that you ſow lime among your corn, you may trouble yourſelf with them no farther, for if they bite where the lime has touched, it kills them.

The next vermin to be deſtroyed are field rats and mice, and water rats alſo; for theſe deſtroy a great deal of grain: which to prevent and ruin them, find out their round holes when the field is bare, and put hemlock ſeed into them, which they will eat, and it will kill them; the ſprinkling of the juice of hellebore in them, will alſo do the like. But that which I preſer above the reſt is, to beat common graſs very ſmall, and mix it with a little coperas, vitriol, and coarſe honey, and make it up in pelletts, and ſcatter it in their haunts, in the mouth of their holes, or other likely places, and the ſecret will draw them from all parts, and once eating it, they will certainly die. This alſo may be uſed in granaries and barns, for other rats and mice, with good ſucceſs.

Slugs and ſnai's, are another ſort of devourers, which do much miſchief to corn and peas juſt ſprouting up; to kill theſe the beſt thing is ſoot or lime ſprinkled thin, over the ground; for touching ir they will die.

Graſhhoppers alſo do much injury, by feeding on the leaf and

and bloſſom of corn and pulſe, from the firſt to the laſt; Theſe are not eaſily deſtroyed, the beſt way to be rid of 'em is, by ſprinkling corn with water, wherein wormwood, rue, or centaury has been boil'd, till the ſtrength of them are taken away by the water; and if they bite where the ſprinkling happen, they will die. The ſcent of any bitter thing being ſo offenſive to them, that they are never found where any ſuch things grow.

Moles are another thing to be deſtroyed, for they are in a double regard deſtructive to corn; that is, in eating the roots, and rooting it up; Not making diſtinction of any ſort, but taking all alike. There are divers ways of taking them, but not ſo eaſily when the corn is full grown, for then they do the greateſt miſchief, when their tracts, or caſting up their hills cannot be diſcovered ſo eaſily; however, you muſt do as well as you can; and when you ſee them caſting, or moving in their tracts, ſtrike them with an iron of many ſpears, or dig pits in their tracts. and ſet earthen glazed pots which they will blindly fall into, and cannot ſcramble out; or fill an earthen jug with pitch, roſin, and brimſtone, with ſome looſe toe or rags, and firing it, clap the neck to the mouth of the hole, and the air in the earth drawing in the ſcent ro a great diſtance, will ſtifle them; or mix juice of hellebore with rye meal, ſcatter little bits in the furrows, and finding it in their way, they will greedily eat it and die.

Having ſhewed you how to deſtroy ſuch vermin as are devourers of corn it will now be neceſſary to ſay ſomething about weeding of your corn when it is ſprung up; for weeds are very offenſive and deſtructive to corn, hindering its growth, and choaking it up.

When the corn is ſprung up about a foot above the ground, thoſe ſotrs of ſoil that are apt to produce weeds, will require your looking after, to root them them out; if they be thiſtles, or ſuch as arh great and offenſive, they muſt be taken away with hooks and nippers, cutting them off cloſe by the roots or rather pulling them up by the roots, if you can do it without breaking the grounp, ſo as not to bring corn along with them. The nipper may be made with two long pieces of wood rivetted, to be opened like a pair of pincers, with

ſaw,

ſaw teeth, cloſing into one another, that they may take the ſurer and firmer hold without ſlipping. And theſe weeds may be much hindered in their growth, by ſowing of two buſhels of bay ſalt in an acre of land, as you do your wheat, after the grain is ſowed: For tho' it is a friend to corn, in making it proſper and increaſe, yet it is an enemy to the weeds. and hinders their growth.

2. *How to turn barren Land into good Paſture and Meadows.*

Hitherto I have been ſpeaking of the ordering of corn, I come now to ſpeak of enriching the earth for meadow and paſturage, and this is done two ways, viz. By watering and manuring it. And for this uſe, the lower the land lies, ſo it be not ſubject to overflowings, and too much wet, the better it is, and the ſooner made good. Conſider, in the next place, what kind of graſs it naturally produces, whether clear or entire, or mixed with that of worſer growth, the firſt is beſt; but if it be of a worſer ſort intermixed with thiſtles, broom, and offenſive weeds, then grub and pluck them as well as you can; then dry them, mix them with ſtraw, and burn them the ſwarth of the ground and ſpread the aſhes upon it; then fold your ſheep upon the ground for ſeveral nights, that their dung may increaſe its ſtrength, and their feet may trample up the graſs: Then ſcatter well over with hey-ſeeds, and go over them with the rowler or beat them with a flat ſhovel, that they may be the better preſſed into the ground, to take root then over theſe ſcatter hay, or the rooting of hay under ſtacks, or the ſweepings of the barns, or moiſt bottoms of any hay that has been good, and is moiſt, and of no other uſe; then ſpread on your manure, as horſe dung, man's ordure, or the dung of any beaſt; which being thinned, and the clods well broken let it lie till the new graſs ſprings through it; but do not graze it in the firſt year, leſt the cattle tread upon it, not having taken very good root; but mow it, that it may have time to come to perfection; And 'tho' the firſt year it may prove ſhort & coarſe, yet the 2d. it will be fine & very long, & in great plenty. And dreſſing it thus but once in 20 years, will

continue

continue it for good meadow or paſture; eſpecially if in dry ſeaſons you have water to relieve it, which may be done by bringing ſprings through it, or gathering the violent fallings of rain into a ditch on the other ſide of it, or any other convenience, according to the ſituation of the ground, on the aſcending part, to overthrow it ſo long, that it ſoak deeper than the roots of the graſs, to continue its moiſture for the nouriſhment of it for a conſiderable time. And note here, that the beſt ſeaſon for watering of meadows, is from the beginning of November to the end of April; and the muddier or more troubled the water is, the better, for then it brings a foil upon the ground, and this generally happens after haſty ſhowers, and great fluxes of rain. And if you have many fields lying together, eſpecially in a deſcent, you may make a conveniency in the uppermoſt, to pen up the water till it is very well ſoaked; and then by a ſluice, or breaking down of a dam, let it into the next; and then by a ſmall addition of water, tranſmit it to many.

Fitzherbert, judge of the common pleas in the year 1525, was the firſt perſon who wrote on the ſubject of agriculture in England, and whoſe familiar ſtile is a proof that he meant to ſerve the cauſe. His excellent inſtructions reſpecting the managing of land and of cattle, render him one of the greateſt ornaments of the age in which he lived.

BOOK III.

THE ART OF

Breeding and Managing BIRDS.

Of Canary Birds. The Manner of Breeding, Feeding, &c.

CANARY BIRDS ſet fourteen days upon their eggs, generally lay four, five, or ſix eggs in a neſt, and will

have

have or five nefts in a year. Match your birds about the middle of March, by putting them in a common fized cage for about a fortnight; when turn them into a large cage or room, made convenient for that purpofe; and fo fituated as to have the morning fun.

If you breed in a large room, you may turn in eight, ten, or twelve pair of birds; more or lefs, in proportion to the fize of your room or cage. Put boxes for the nefts in different places, always allowing more boxes than pairs of birds; as they not only love room, but it frequently happens the hen will go to neft again before the firft can fly, and will leave the cock to feed them: it has happened in this cafe that a vacant box not being to be found, they have built again upon the former, and thereby deftroyed the young ones.

Leave the birds in the neft till the hen hatches again, then take the former away, otherwife they will be neglected, or ill treated by the old ones. If you mean to bring them up by the hand, take them away at twelve or fourteen days old, and feed them as you do linnets. To feed thofe brought up by the old ones, take the yolk of an egg, boiled hard, mixed with as much bread, and a little fcalded rape-feed, bruifed fine, together with a fmall quantity of maw feed, and give them a freth pan full every day. A little fcalded rape-feed, and rape and canary mixed, may alfo be given them: chickweed and groundfel may be given occafionally. About the month of June give them fhepherd's purs, and in July and Auguft plantain. Supply them with elk's hair, fine hay, and foft feathers, for making their nefts.

Though thefe birds are fubject to many diftempers, yet with due care they will live many years. Too many greens efpecially chickweed that is rank, will bring on a furfeit which caufes a fwelling under their bellies, full of red veins: this fwelling in its firft ftate is white, then if not ftopped will turn red, and the laft of all to a black fwelling, which few furvive. Moulting, though natural to all birds, is ftill very dangerous, and frequently proves fatal. The fymptoms of this diforder, are there appearing rough and melancholy; fleeping much in the day with their heads under their wings; and it is fometimes attended with a fmall pimple on their rumps, called the pip on the tail.

As

As we have mentioned ſome of the diſorders, incident to theſe kinds of birds; we think it neceſſary alſo to point out ſome remedies. In caſe a ſurfeit, put plenty of oatmeal among the ſeed, for three or four days, and liquorice in the water; which will cleanſe him: but in caſe the bird is too laxative, give him maw ſeed, and bruiſed hemp-ſeed, inſtead of oatmeal; alſo a little groundſel; put ſaffron in his water, and draw ſome of his tail feathers. Boiled milk and bread, with maw-ſeed mixed in it, is alſo very good, and may be given as a change of diet.

Another receipt for the ſurfeit or common ſwelling is, a ſmall quantity of millet-ſeed, an equal quantity of hemp, maw, rape, and canary; let them be juſt boiled, then cut about a quarter of an egg, boiled hard, in ſmall pieces, and put to the ſeeds, alſo add a double quantity of lettice-ſeed. Previous to your giving the bird this compoſition, put treacle in his water, for three or four mornings; when you have obſerved him drink two or three times in a morning, rince out the pot or glaſs, and fill it again with clean water.

When your birds are in moult be very careful of keeping them warm, and give them nouriſhing food, ſuch as Naples biſcuit, bread and egg, bruiſed hemp ſeed, lettice and maw-ſeed, with a little ſaffron in their water, if the weather is not too hot; if it is, ſteep a piece of liquorice; and let them have plantain and lettice ſeed together. In caſes of danger, a little of Naples biſcuit, ſteeped in white wine, may ſometimes be ſerviceable. When the bird is troubled with the pip, and it becomes full of matter, let it out with a fine needle, as gently as poſſible; afterwards put a bit of moiſtened ſugar on the ſore.

Another diſtemper ſometimes attends theſe birds, which appears on the head, with a yellow ſcurf covered with ſmall ſcabs: this ſhould be anointed with oil of ſweet almonds, freſh butter, or ſweet lard: adminiſtering the ſame food as before directed.

Of the BLACK BIRD.

How to diſtinguiſh the Cock from the Hen, &c.

BLACK BIRDS are much eſteemed for their melodious ſong; they may alſo be taught to whiſtle to a pipe, in

a moſt delightful manner; with this enchanting muſic he will entertain you four or five months in the year, and in general is reckoned a hardy bird.

They breed ſoon in the year, having young ones in April, and ſometimes ſooner; which may be taken from them at ten or twelve days old. Their food is generally ſheep's heart, or any lean meat, cut ſmall and mixed with bread. When young keep them clean, and give them moiſt victuals every two hours, ſuch as milk and bread, cheeſe, curd, &c. When out of order, give them ſpiders, or wood-lice, but not too many in a day; put alſo a little cochineal in their water.

We would recommend in the choice of a bird, alſo to take the blackeſt, which is eaſily diſcerned in the neſt, and theſe ſeldom fail of proving cocks.

Of the SKY LARK.

How caught, Method of Feeding, &c.

THESE birds are in general very long lived, and very hardy, havin been known to live upwards of 20 years. They will entertain you very agreeably eight or nine months in the year with their ſong, if kept from the hearing of other birds, or otherwiſe brought up under a ſong-bird. They generally have young ones about April or May, and will breed three or four times in a year; which is commonly in fields of high graſs, or in the marſhes. They ſhould be about ten or twelve days old when you take them from the neſt: feed them with bread and milk, boiled ſtiff; with which alſo mix about a third quantity of rape-ſeed, boiled and bruiſed; let them be fed every two hours, and be ſure to give them freſh victuals every day. In about three weeks or a month, they will be able to feed themſelves; when give them dry meat ſuch as bread, egg boiled hard, and hemp-ſeed bruiſed; put ſome gravel at the bottom of the cage, alſo a tuft of three-leav'd graſs.

The largeſt and longeſt birds in the neſts are generally found to be cocks. Many methods are uſed in catching theſe birds. In the months of June or July they are taken with a hawk and

and net, and are then called branchers; the meaning of which is, a bird that has flown about two or three months; is full grown, but has his neſtling feathers. To catch theſe birds, get a net about twelve or thirteen yards long, about three or four broad, with a line run through the middle; you muſt alſo have a hawk, which ſhould be carried by one perſon, while another holds the end of the line: when you find a flock of birds, get as near them as you can; then ſhew your hawk, at the ſame time fluttering his wings; the birds will then, through fear, lie cloſe to the ground, when the net may be ſpread over them.

The ſky-lark may be taken in flight with a clap-net, like other ſmall birds. They are alſo taken in dark nights, with a trammel net about thirty yards long, and ſix over; run through with ribs of pack thread; this is placed upon two poles, ſixteen feet long, and tapt at each end; which muſt be carried by two perſons, about half a yard to the ground; frequently touching the ground, in order to raiſe the birds; when they fly againſt the net you are certain of having them, and muſt let the net immediately fall. This net is alſo uſed in catching quails, wood-cocks, partridges, &c. Another method of taking theſe birds is, when there is a great ſnow on the ground. Get a quantity of pack thread, and at every ſix inches make a nooſe, with two horſe hairs twiſted together, and at every twenty yards faſten it to the ground with a little ſtick. Scatter ſome white oats amongſt the nooſes to which the birds are ſure to come, and are caught.

The ſky-lark is generally a hardy, fine, ſtrong bird, and very ſeldom out of order; but it ſo happens, grate a little cheeſe in his victuals, and give him three or four wood-lice in a day, and ſometimes a ſpider; put alſo a little liquorice and ſaffron in his water, which is all that is neceſſary for theſe birds.

Of the WOODLARK.

THIS bird is much admired for his fine melodious pipe, and a pleaſing variety of notes. His ſong continues about nine months in the year, and is eſteemed by ſome fanciers

ciers ſuperior to that of the nightingale. The ſame method is made uſe of in taking theſe birds as before directed for the ſky-lark, in the months of June or July when they are termed branchers; but thoſe caught at Michaelmas generally prove beſt, and may be eaſily taken with clap-nets, which ſhould be placed upon high ground; the birds flying high at that ſeaſon. When firſt taken, ſtrew ſome bruiſed hemp-ſeed and bread on the gravel, at the bottom of the cage; as they will ſooner feed from the bottom, than in the trough; when they are come to their meat, give them boiled eggs, chopt fine, and mixed with bread, hemp-ſeed and maw-ſeed. You may alſo give them ſheep's heart, or any kind of meat that is not ſalt or over-dreſſed; and let them have freſh victuals every day.

If the bird is ill, give him hog-lice or meal-worms; but not more than two or three in a day. If laxative, grate ſome chalk or cheeſe, in his victuals, and put mould, full of ants, in his cage, inſtead of gravel.

Some are of opinion the cock may be diſtinguiſhed from the hen by the largeneſs of his wings; others by the length of his heel, or ſetting upon the crown of his head; others again by the length of the bird; the cock being generally found to be the longeſt bird.

Theſe birds breed very early in the year, the young ones having been known to fly by the 25th of March! If you deſign to bring them up from the neſt; let them be well feathered before you take them, and feed them in the ſame manner as nightingales.

Deſcription of the TIT-LARK.

THIS is a very handſome bird, about the ſize of a nightingale, and eſteemed a very proper bird to raiſe others under; they generally having a very fine ſong. The moſt valuable amongſt them are theſe that will chew, whiſk, week & rattle, which ſome will do to great perfection; they will alſo run their feet, and their ſnee-jug, and twink different ways. They ſing from March to July, and are generally caught the latter end of March, and beginning of April, with clap nets, or lime twigs, like linnets or other birds. When firſt caught, give

give him ant's mould in his cage, and bread grated and mixed with hemp-seed, bruised very fine; with which you may also put two or three meal worms, cut in half. If set in a light place, and not disturbed, he will soon be brought to feed: after being treated in this manner two or three days, you may feed him as the sky or wood-lark, and he will sing in a very short time.

Some Account of the NIGHTINGALE.

Method of Catching, Feeding, &c.

THIS bird is esteemed the finest of all the feathered race; his natural sweetness, and strength of voice, creating a harmony infinitely superior to that of any other bird. This agreeable music he will continue about seven months in the year, and so jealous he is of a rival, that he would continue his notes till he fell from the perch, rather that be outdone by any other bird. It is remarkable of these birds that they are never seen in winter in any part of the world: various are the opinions concerning their flight, but it is all mere conjecture, as no one yet was ever able to discover their real settlement in the winter season. Those birds that are caught before the middle of April generally prove cocks, at which time the hens arrive.

There are many ways of taking these birds at different seasons: the branchers are caught in July or August, but those taken in the month of April generally prove the best birds. One method of taking them is by digging a hole in the earth, and placing a board or tile over it, supported by a stick, on which put two or three meal-worms, which the bird coming eagerly to devour, falls into the hole and is taken. They may also be taken with lime twigs, but the best method we apprehend is with the nightingale's trap. This trap is about the size of a round trencher, and may be made with a silk net, a watch spring, and a round wire; to which the net is fastened; there is also a cork that comes through; likewise a small string, which holds up the trap, in which stick a meal-worm, and the cork very slight in it, the bird seeing the worm will endeavour to get to it, by which means she will draw the net on herself.

These

These birds are generally found by the side of a sandy, or a chalk hill, also in a wood coppice, or quick-set hedge. When you have caught a bird, tie his wings, and pluck the feathers from his vent, which will otherwise clog up, and occasion his death.

When first taken feed them with sheep's heart, and egg, cut in small bits, three or four of which must be given them every two hours at fartherst. When they have been crammed in this manner about two days, put some meat in their pan, filled with ants; put also ant's mould at the bottom of their cage; this will learn them to feed themselves in a short time, but don't leave them to themselves too soon.

There are many different sorts of food, and methods made use of in feeding these birds, but what we conceive to be the best is this, in summer time take a sheep's heart raw, and chop it very fine, also boil an egg hard and grate it; put one egg to one heart, or a smaller quantity in proportion, as their victuals should always be moist, otherwise it makes them vent bound. Sprinkle a little water upon the egg and heart, and mix them together till it is almost as thick as a salve. Take great care to get the strings all out of the heart; as they sometimes get about the tongue, which will kill them in a short time: when this case happens, which may be known by their gaping, and endeavouring to vomit, if possible open his mouth, and draw out the string with a needle, after which give him a meal-worm, or spider. In winter the heart should be par-boiled, and in stead of water, use the liquor the heart was boiled in; but be careful none of the fat gets among it.

The nightingale generally builds her nest (which is different from other birds) in a close quickset hedge, where there is great store of briars to defend her from her enemies. The young birds are generally fit to take about the middle of May but let them be well feathered first. If taken too soon, they will be subject to the cramp and looseness, which will occasion much difficulty in rearing them. While young put straw, or dry moss in the cage, but as they grow older, give them ant's mould, as before directed. Learn them also to feed upon flies, spiders or meal worms, being very nourishing, and in case of sickness absolutely necessary. Let them have plenty of water to dabble and wash themselves in, as it is impossible ever to keep good birds without great cleanliness.

Description

Deſcription of the ROBIN RED BREAST.

With a genuine Anecdote.

THIS bird is much admired, and for ſweetneſs, is thought to be little inferior to the nightingale. They generally breed three times in a year, viz. April May and June, making their neſts with moſs, wool and hair, and commonly produce five or ſix young ones, but ſeldom leſs than four. They frequently appear in the winter on the tops of houſes and ruinated places, where they alſo build their neſts. You may take them from the neſt when about ten days old; if older they will be ſullen, and conſequently more difficult to bring up. Feed them as you do nightingales, with ſheep's heart, egg, or any kind of freſh meat, minced ſmall. Take care to keep them warm, and give them inſects occaſionally particularly ſpiders, of which they are very fond.

Theſe birds are taken with lime twigs, and alſo with a trap-cage and meal-worm. If a cock and a young bird, he will ſing in a ſhort time. The breaſt of the cock is of a brighter red than that of the hen, by which they are eaſily diſtinguiſhed.

Theſe birds are frequently ſubject to the cramp & giddineſs, will ſometimes fall off their perch; to prevent which, keep them warm and clean. When you find him droop, ſpiders, or meal-worms will much refreſh him. When the giddineſs appears, an ear-wig now & then will be found very ſerviceable. When his appetite fails, give him hog-lice, and take care that he has freſh water two or three times in a week, and occaſionally put a little ſaffron or ſtick liquorice in it, which will help his ſong, and make him chearful and long-winded.

We ſhall cloſe our account of the robin with relating a remarkable and unprecedented inſtance of a gentleman's breeding theſe birds in a cage, which, however extraordinary it may appear, is a known fact, and can be well authenticated.

This gentleman's delight was in birds, in purſuit of which pleaſure he had acquired ſo much experience as held him high in eſtimation amongſt the fancy. In the courſe of his ſtudies, he had endeavoured for a ſeries of years to breed robbins in a cage, which was hitherto thought impracticable, in which, after great expence, and many fruitleſs efforts, he at

length

length ſucceeded: three young birds were produced, each of which proved a fine cock, and ſurvived many years. At this gentleman's death, one of theſe birds was given as a preſent to the writer of this narrative, who, after keeping him about two years, through a fatal neglect in giving him water, found him dead one morning in his cage. This bird was equal, if not ſuperior, in ſprightlineſs, ſtrength and ſong, to any robin ever yet produced.

The LINNET deſcribed.

THIS is eſteemed a very good bird, and will learn to imitate the note of any other. They generally breed about April, and build their neſts among furzes, or upon heaths or commons. They have three or four neſts in a year, and commonly four or five young ones, which you may take eight or ten days old.

Feed them when young with boiled bread and milk, mixed with a little rape-ſeed, ſcalded and bruiſed, and let them be fed every two hours. When able to feed themſelves, give them ſome wood lark's meat, till they can crack the ſeed, which will be in about ſix or eight weeks.

The cocks may be diſtinguiſhed from the hens by the brownneſs of their backs, and the white feathers upon their wings.

Of the CHAFFINCH.

THE chaffinch is a very hardy, ſtout bird, and has a great variety of notes. The neſtlings or branchers will hold their long ſix or ſeven months in the year; the wild ones not more than three; they are generally brought up under other birds.

They breed two or three times in a year, beginning in May. Take the branchers in June or July, when they are about ten or twelve days old, and feed them as you do linnets.

The cocks are red in the breaſt, and the hens grey.

Deſcription of the GOLDFINCH.

THIS is a very lively bird, and has a very pleaſing ſong of his own; but they generally take it from a woodlark, or ſome other bird. They breed in April, and have three or four neſts in a year. When brought up from the neſt, feed them the ſame as linnets, with this difference only, give them canary inſtead of rape ſeed, and you may put a little Naples biſcuit among it. Canary ſeed alone is the beſt food, which you may endeavour to bring to as ſoon as you can.

If ſick give them ſaffron in their water, and a little groundſel. Always keep gravel in the cage, and when laxative crumble a little chalk in it. You may alſo give them lettuce or thiſtle-ſeed.

The cock may be known at any time by the edges of the wings, being black upon the ſhoulder: the bill is alſo black, and under it red and, the colours in general of the cock are much brighter than thoſe of the hen.

Of the BULFINCH.

THIS is a bird of great beauty, and eſteemed very valuable if properly taught. His natural ſong is very different, but he may not only be learned to pipe any tune at command but alſo may be taught to ſpeak.

They generally build in an orchard or wood, have two or three neſts in a ſummer, but ſeldom have young ones till the latter end of May. Theſe birds doing much miſchief to the wall-fruit, are often deſtroyed by the gardeners; by which means they are not very plenty in England.

You may feed and bring up this bird the ſame as a linnet. After they have been caged about a week, you may talk, whiſtle, or pipe to them; which they will imitate in a very ſhort time.

The beſt method of diſcovering the cock from the hen is, when about three weeks old, to ſtrip a few feathers from the breaſt, if a cock, they will grow again in about ten or twelve days, as red as blood; if a hen they will appear of a pale brown.

The

The STARLING described.

THIS is a very hardy and pleasing bird, his song is very indifferent, but he may be taught to whistle, pipe, or talk as differently as a parrot: they breed in trees, pigeon-houses, or the side of dwelling houses. Feed them, when young, as the blackbird: but when able to feed themselves, bring them up like a wood lark.

The cocks have a black streak upon their tongue, which the hen has little or none of; when moulted off, the breast of the cock is finely marked with beautiful colours, of which the hen is quite different.

Of the THRUSH or THROSTLE.

THERE are various sorts of these birds; the first is called a red wing, the next a long-thrush; there is also the measle-taw-thrush, &c. The wood song-thrush, builds his nest with moss; is a very fine bird, and sings nine or ten months in the year. The heath-thrush is nearly the same, but builds his nest in furzes. They breed very soon in the year, and are fed the same as black birds.

Of the WREN.

THIS is the smallest of birds, but has a fine song, and very strong pipe. They make their nests about the beginning of May, with green moss, lined with small hair: it is in the form of an high crowned hat, with a round hole in the side, to get in at. Let them be well feathered before you take them from the nest, and feed them in the same manner as nightingales.

The TWITE.

THIS bird is exceeding lively and merry, and is a good companion for linnets or other birds; as by his continual singing others are encouraged to do the same. The cock has a red spot on his rump. The food is the same as linnets.

The

The RED-START deſcribed.

THIS is a very beautiful bird, and has a very fine ſong, The cock has a black tail, the hen reſembles a nightingale in colour; like which bird they muſt alſo be brought up and fed.

BOOK IV.

Methods to prevent and deſtroy all Kinds of Vermin.

To prevent Bugs from breeding.

BUGS are not only become troubleſome at London, but are got into the country; and whereas people think they are bred of hog's hair, wood, wool, cloth and fur, theſe things breed only lice, moths, and worms, but bugs proceed from old feather beds, whereon have long laid ſick and ſweaty people, which produces purified ſmells and vapours; ſo does theſe preſs beds that have not the advantage of the pure air; as alſo cloſe rooms, where the air wants free egreſs and regreſs; from theſe cauſes bugs proceed; and alſo all conſumptions, weakneſs of the back, and ſuch like diſeaſes that people little think of. And if you obſerve, you ſhall never find theſe creatures in ſhops, or where no beds are or have been put. One way therefore to prevent them, is to waſh your rooms, and keep them very clean, and keep your windows open in the day time, that the air may come in, and the ſun ſuck up the moiſter contracted in the night time: this is a great preſervative againſt all vermin, as alſo of your health; and would

would uſe ſtraw or chaff beds, or quilts to lie on, a little time would make them as pleaſant as down beds; but, however, let your feather beds be forced once in two or three years, and that will be means to preſerve you from bugs and ſickneſs. Straw and chaff-beds you may change with little charge as oft as you pleaſe. Now to deſtroy bugs already got into your houſes, I ſhall give you the beſt receipts, which are as follows.

How to deſtroy houſe Bugs.

Take the ſheet of paper which is next to the roll-tobacco; two grains of the oil of nitre, and as much ſweet oil as will ſpread over the ſheet of tobacco paper, with a little powdered ſugar, lay this in any part of the room or place where they are, and it will deſtroy them. This was communicated by a gentleman of Leghorn who never knew it to fail.

Take gun powder beat ſmall, and lay ſome about the creviſes of your bedſtead, and fire it with a match about your bedſtead, and ſteep the ſmoak in; this do for an hour or more and let the room be kept cloſe for ſome hours after. Or take the ſprigs of fern, and lay upon the boards, kills them.

Take a handful of wormwood and white hellebore, boil them in urine till it is half waſted, and waſh the joints of your bedſteads with it.

Take a quantity of unſlacked lime, put it into a quart of water, and let it ſtand three or four days, then pour off the water, and add a quantity of common ſalt, the ſtronger both of lime and ſalt the better: waſh the ſides of the wall and bedſtead with this liquor two or three times a week, it kills bugs and fleas.

Burn brimſtone under the joints of the bedſtead and creviſes where they lie, and they'll come out preſently, that you may kill them; do this two or three times a weeek, and keep the room cloſe.

Take a convenient quantity of good tar, mix the juice of wild cucumbers with it, and ſtir it five times a day for two days; then anoint your bedſtead with it, and it kills them.

Take a handful of rue and wormwood, and mix them with common oil, and as much water as will cover the rue and wormwood, let it boil till the water is all boiled away, then ſtrain out the oil from the herbs, and mingle with ſheep's ſuet

as much as the oil; then anoint the bedſtead with it, and it is an infallible remedy.

Take ſoap ſuds that lies after your waſhing, and boil onions in it; then waſh your room and bedſtead with it.

Take ſtrong vinegar, and mix ſalt with it, then ſprinkle your room. This prevents bugs and fleas, and is very wholeſome to ſmell, or vinegar alone.

Take three ounces of guinea pepper, put it on a chafing diſh of coals in your chamber, ſhut the doors and windows, but take great care to go out yourſelf, or it will ſerve you as the bugs and fleas. This do twice a month in hot weather, and it will kill all ſorts of vermin in the bed.

Hang a bear's ſkin in the room, and they will be gone. Or get a trap about a yard and a half long, or more, if your bed is broad, and about half a yard in depth; put it at the head of your bed, to the bottom of the pillow, and in the morning they will creep into it, take it into your yard, knock it, and they will drop out, ſo you may kill them. They are made of wickers, by baſket makers.

To conclude; let your rooms be kept clean, ſet open your windows when you riſe, and lay your bed-clothes open four or five hours, and it is the only way to prevent both bugs and lice.

LICE.

TAKE a little ratſbane, and boil it in ſpring water; then when it is pretty well boiled, keep the water for uſe; rub a little of it about the ſcabby and louſy head, then put on a cap, and tie it on cloſe. Uſe this with care, for it is the ſtrongeſt poiſon imaginable; waſh your hands after it, and be very careſull.

Take ſtaves-acre powdered, and mix it among the hair, then tie it with a cap, and it kills them. Or oil and ſtaves-acre.

Nits and Lice in the Head.

Take of bees-wax an ounce, three ounces of olive-oil, and three drams of ſtaves acre: of theſe make a ſalve, and anoint it kills both nits and lice.

Take red orpiment and ſalt-petre, each a dram, louſe-herb

two

two drams, and mix them togethhr with oil and vinegar, ſo anoint the head.

Lice to kill on Ship-board, Bed and Body.

Take May butter or unſcalded cream an ounce, three pennyworth of quickſilver, warm them in a luted pot of loam, ſo ſtir them till they incorporate together, then take a ſmall linen cloth of three inches, ſteep it therein; then take a piece of ſilk, and ſew it into it, and hang it about the neck oftentimes found certain by Dr. Thompſon.

To kill Lice on Trees.

Through drought many trees and buſhes become louſy, as ſweet briar, gooſberries, &c. therefore frequently waſh them, or diſhing them with water may prove the beſt remedy.

For Crab Lice.

Waſh with the decoction of penny poyal; ſome anoint with black ſoap. Or boil marjoram in water; and waſh with it; or the juice of ſtinking gladon.

For Lice in the Eyelids.

Rub your eyelids with ſalt water, or brimſtone and water, of the eyelids.

FLEAS TO KILL.

Take lavender and wormwood, and boil them in vinegar well, and ſprinkle your blankets with it; or ſavory laid in your chambers, kills them.

Take wormwood well dried, and put it in a bag with holes in it, ſo place it under your bed; or ſeawort laid under or about your bed kills them; or take wormwood, nut leaves, lavender, eye-averon, and green coriander, put them under the bed or pillow, and the fleas will die.

Agrippa ſays, that goat's milk lye is an infallable remedy, being ſprinkled about the room.

Muſtard

Muſtard-ſeed boiled in water, and the room ſprinkled with it. Arſemart (the hot ſort) ſtrewed in the chamber, kills all the fleas; and put under the ſaddle of a tired horſe, will make him travel.

To kill Fleas and Wood Lice.

Take the decoction of thiſtle or arſemart, or coloquintida, bramble or colewort-leaves, and ſprinkle about the houſe, drives them away. Or anoint the ſtick with the greaſe of a hedge-hog, and lay it in the room, and the fleas will gather and ſtick to it.

Take ſouthernwood, rue, wormwood, ſavory, walnut-leaves, lavender, and flea-ſeed; lay all theſe (or ſome of them) under the blankets; or boil them in vinegar and ſea-onions, and with that beſprinkle the bed.

RATS or MICE.

The following Receipt communicated by an ingenious Gentleman who never knew it to fail,

To deſtroy Norway Rats.

Take two ounces of glaſs, one ounce of cream of tartar, one grain of muſk four grains of cinnamon, half an ounce of anniſeeds, all pounded, and one ounce of maſt duſt mix them with a gill of ſweet oil, and make it into paſte. Great care muſt be taken that no children or cattle can get at it, for the taſting it will be attended with immediate death.

Rats or Mice.

Take ratſbean, powder it and mix it with freſh butter, or make it into paſte with barley or wheat meal and honey, and lay it on trenchers on boards where they come; they will eat it, and it makes them drink till they burſt. It is a ſtrong poiſon, therefore be very careful in uſing it, and waſh your hands after it. Or unſlacked lime and oatmeal mixt, and laid on boards where they come, it kills them.

To take Rats, or Mice especially.

Take a board three feet ſquare, and lay a piece of ruſty fried bacon in the middle, then lay it pretty thick with bird-lime, leaving ſome alley's for them to come to it, and they will get among the bird-lime and ſtick, drawing and ſqueaking, that it will make you ſport. One ſaid, he had catch'd twelve in a night. In Staffordſhire they put bird lime about their holes, and they running about it, it ſticks to their ſkins, that they will not leave ſcratching till they kill themſelves. Or take coloquintida and oatmeal, make it into a paſte, and lay it where they come.

Rats and Mice to kill.

Black hellebore and the ſeeds of wild cucumber mixed with ſuch food as they eat, kills them. Or mix powdered hellebore with wheat or barley-meal only, made into ſtiff paſte with honey, and laid where they come, they eat it, it is preſent death, but great care muſt be taken, leſt any thing they eat ſhould be poiſoned.

Rats and Mice to frighten away.

Take a rat or mouſe, and beat or cut him very ſore, then let him go, and he'll cry and make ſuch a noiſe, that it will frighten the reſt from your houſe.

Another.

Set a trap over-night, with a piece of ſtrong toaſted cheeſe, and you will be ſure to have one or more in the morning; then take a little aqua-fortis, and ſprinkle them with it, and immediately let them run into their holes. By the heat of the aqua-fortis it will make them cry to ſuch an exceſs, that it will frighten the reſt away, and they will expire in their holes.

Rat

Rats and Mice to keep from Cheese.

Agrippa says, that hog's lard mixed with the brains of a weasle, and laid in large pellets or quantities about the room, they will not come into that room.

To make Rats and Mice scabby.

Put oak-ashes in their holes, and they running among them makes them scabby, and so kills them.

To drive away Rats and Mice.

Make a fume with smallage-seed,, origanum, and nigella, all or any of them, and it drives them out of the houses. Also lupins or green tamarinds burnt in the room drives them away.

That Rats and Mice may not eat Books.

Let the printers put infusion of wormwood into their printing ink, and they will never eat the printed paper.

Rats and Mice.

Chips of cork fried in suet, and laid where they come, kills them.

To kill Field Rats and Mice.

In the dog days they fields are generally bare, then find out their holes or nests, which are little and round like an auger-hole, and put hemlock-seed thereunto, or hellebore mix't with barley; they eat it greedily, so kills them.

That Mice may not destroy seed corn.

Steep your seed in bull's-gall, and they will not touch it. Or take green glass, powder it, and as much copperas beat

beat to powder; mix it with honey till it comes to paſte, and it will leave neither rats or mice in the fields, but kill them.

To kill Rats or Mice in Houſe or Field.

Stop their holes with roſe and laurel leaves: Some mingle wild cucumber, henbane-ſeed, bitter almonds, and black hellebore, beat together and made into paſte with barley meal and oil, and put into their holes in houſe or field, ſo they eat, and it kills them.

To preſerve Artichocks from Ruts or Mice.

They are great lovers of Artichocks, and will come to them in troops, To prevent this, wrap wool about their roots, and they'll be gone. Or hog's dung, or fig-tree aſhes laid about them, will drive them away.

Mice and Rats to catch in the Field.

Place an earthen pot in the ground, half full of water, and cover it with a board with a hole in the middle of it, and then cover it with haum, ſtraw, or ſuch like rubbiſh under which the mice will ſeek for ſhelter, creep into the hole and ſo drop into the water and be drowned.

To preſerve corn from Rats and Mice.

Set four or ſix poſts in the ground, according as your grainary is deſigned for bigneſs; let them be two or three yards high, then make a floor of wood acroſs to ſupport your corn, and about the poſts put Dutch tiles, ſuch as you ſet in chimneys, and they keep ſmooth, that rats or mice cannot get up. If you erect a barn or grainary, erect ſides and a roof upon it; if only a ſtack cover it with thatch. Some make their ſupporters of two ſtones, and the lower about three feet high, and two feet wide at bottom, and one at top, over this they lay a ſtone about a yard ſquare; ſome make it of a round form,

which

which is beſt; let the corn you ſtack be bound in ſheaves, that the ears may be turned inwards, which will preſerve it from pigeons, crows, and other fowl. If you ſuſpect rats or mice may be got in the grainary, greaſe a ſtick and thruſt it into it; they will gnaw the ſtick, and ſo diſcover it.

MOLES.

TAKE a head or two of garlic, onion, or leek, and put it into their holes, and they'll run out as if amazed, and ſo you may with a ſpear or dog take them.

To kill Moles.

Take the dregs of oil, or the juice of wild cucumbers, and pour it into their holes, and it kills them. Or, make ſtrong lye of copperas and water, and in the morning early make a hole in all the heaps with a broom ſtick, and in the evening pour this water into the holes, it kills them.

Put hellebore, white or black, and with wheat flour, the white of an egg, milk and ſweet wine or methiegin, make it into paſte, and put ſmall pellets as big as a ſmall nut into their holes, and they eat it with pleaſure, and it kills them.

Pliny ſays, take an earthen jug-pottle with a big belly and narrow neck, and put bees wax, roſin and brimſtone, and cedar-wood cut ſmall into it, ſet theſe on fire and ſtop all the mole-holes cloſe, but one, which being opened, put the neck of the pot into it, and the ſmoke will choke them.

To drive Moles away.

In places you would not dig nor break much, the fuming their holes with brimſtone, garlick, or other unſavoury thing, drives them away, and if you put a dead mole into a common haunt, it will make them abſolutely forſake it.

To take Moles an incredible way.

A mole-catcher and his boy, in ten days, in the ſpring time in

in the ground of 190 acres, took near three buſhels of old and young, and caſting up their neſts only, which are always built in a great heap as big again as the reſt, eaſily diſcerned; then would the old ones quickly come to look after their young, which they would ſnap up.

If you have a conveniency of bringing water over your ground, it will deſtroy them as far as it goes.

Another.

To take them in trenches ſpoils much ground; therefore take a mole-ſpear or ſtaff. where you ſee them caſt, go lightly, but not on the ſide betwixt them and the wind, leſt the perceive you; and at the firſt or ſecond putting up of the earth, ſtrike with your ſtaff downright, and mark which way the earth falls moſt; if it fall toward you, ſtrike ſomewhat over, if ſhe caſt towards the left hand, ſtrike ſomewhat on the right hand, and ſo on the contrary to the caſting up on the plain ground, ſtrike down, and there let it remain then take out the tongue in the ſtaff, and with the ſpattle or flat end, dig round about the grain to the end thereof, to ſee if you have killed her; if you have miſſed her, leave open the hole, and ſtep aſide a little, and perhaps ſhe will come to ſtop the hole again, for the love but very little air, and then ſtrike again, but if you miſs her, pour into her two gallons of water, and that will make her come out for fear of drowning: mind them going out in a morning to feed, or coming home when fed, and you may take a great many.

To take Moles another Way.

In March or April the ground is ſoft; and the run ſhallow, and alſo after a rain, and by the ſides, and in the ruts of carts, andwhen you ſee ſuch newly wrought, tread it down always ſoftly; and then at her accuſtomed hours, which is uſually at ſpring-time from about 6, 8, and 11 in the morning, and in the evening about 3 or 4, or 7, ſhe will ſtir up the earth in the ſaid trenches, and ſo go from trench to trench,

trench and then diligently and hearken, and you will either hear her or ſee her at work, moving the earth in the trench, then ſtop down the broad end of your ſtaff acroſs the hole behind her, and with your foot before her, ſo ſtop the way behind with your ſtaff, and before with your foot, and then take her up with your ſpattle.

Moles generally go abroad about ſun-riſing, or ſoon after in dry hot weather moles ſeldom go abroad but in the morning, but in moiſt weather twice a day, forenoon and afternoon; and in froſty weather the work under trees and thick hedges and buſhes; in wet ſeaſons and in winter the lie moſt in banks and hedges, under the roots of trees and hills, and come out every morning to go abroad (if it is dry) 2 or 300 yards from their holes, and after an hour or too feeding. return home; then obſerve where the have been, and there make trenches and chop the earth down with the ſpattle or broad end of mole-ſtaff, wich ſhe had before raiſed and paſſed through. and there tread it down with your foot in trenches lightly; the longer the trenches are, the longer ſhe in paſſing through them. Make trenches in the moſt convenient place in the ground; if you make them nigh their holes, 'tis beſt to make them going out or coming home Make trenches along by the hedge ſide or nigh backs and and roots of trees, for that is beſt.

To make an Inſtrument to deſtroy Moles.

The beſt inſtrumentto deſtroy them is made thus: Take a ſmall board of about three inches and an half broad, and five inches long, on the one ſide thereof, raiſe two ſmall, round hoops or arches, and at each end, like unto the two ends of a carrier's waggon, or a tilt boat, large enough that a mole may paſs through, them; in the middle of the board, make a hole that a gooſe-quill may paſs through, then is that part finiſhed; then have in readineſs a ſhort ſtick about two inches and a half long, about the bigneſs that the end thereof may juſt enter the hole in the middle of the board alſo you muſt a cut haſle or other ſtick, about a yard or a yard and a half long. that being ſtuck in the ground

may

ſpring up like unto the ſpring the uſually ſet for fowls ; then make a link of horſe hair very ſtrong, that will eaſily ſlip, and faſten it to the end of the ſtick that ſprings ; alſo have in readineſs four hooked ſticks ; then go to the furrow or paſſage of the mole, and after you have opened it, fit in the little board with the bended hoops downwards, that the mole, when ſhe paſſes that way, may go directly through the two ſemicircle hoops. Before you fix the board down, put a hair ſpring through the hole in the middle of the board, and place it round, that it may anſwer to the two end hoops, and with the ſmall ſticks, and gently put in the hole to ſtop the knot of the hair ſprings ; place it in the earth in the paſſage, and by thruſting in the four hooked ſticks. faſten it in the earth, and then when the mole paſſes either one way or the other, by diſplacing or removing the ſmell ſtick that hangs perpendicularly downwards, the knot paſſes through the hole, and the ſpring takes the mole about the neck. Tho' the deſcription ſeem tedious, yet this is very plain, and eaſily performed ; theſe vermin being ſo very prejudicial, even worſe to ground than ſwine.

WEASLES.

Take ſal ammoniac, and beat it, and with wheat flour and honey make it into a paſte with the white of an egg, and lay it in pellets where the come, and eat it, and it kills them.

Put bells about his neck, and let him run about your houſe, and he'll frighten away all the mice. 'Tis their natute to deſtroy mice, therefore ſome people love to have them about their houſes.

Lay rue about the hens that lay. and they'll not come near 'em.

The ſmell of a burnt cat frights them away, as all inſects will be frighted away with their own kinds being burnt.

CATERPILLARS.

Caterpillars deſtroy they leaves of trees, and devour cabbages.

and other tillage, and are generally the effects of great draughts. To prevent their numerous increaſe on trees, gather them off in winter, taking the prickets away that cleave to the branches, and burn them.

Or, anoint the bottom round about with tar, then get many piſmires and put them in a bag, hang them on ſo that they may touch the body of the tree; the piſmires cannot get down for tar, ſo for want of food will devour the caterpillars.

When they are upon coleworts or cabbage, take ſome ſalt water and ſprinkle them with it, and it will kill them.

Catterpillars of many ſorts. the Wolf, the Black Fly, the Calendar-worm, &c.

The moſt hurtful is the Wolf and Calendar-worm, that lurk in the heart of flower buds, ſhutting them up that they cannot open, which they conſume; the trees that blow early, look as if ſinged by lightning; thoſe that blow late are not ſubject to this evil.

But for this diſeaſe that has been accounted incurable, and all other enemies. Take three ounces of wormwood, one ounce of aſſa fœtida, ſteep and break them, and boil with four peals of water in the air, becauſe they are ſtinking ſmells, and when boiled, ſtrain out the ingredients through a linnen cloth, and uſe it when cold at pleaſure, before the bud be opened, and they will do no harm to the tree. You may alſo add other ingredients, as tobacco ſtalks, wild vines, coloquindita, or the like, and expect every good iſſue.

Great Bugs to deſtroy, that hurt green plants, and Roſe-trees.

To kill green bugs in gardens, ſprinkle the places where they fix with ſtrong vinegar, mixed with the juice of henbane, or, ſome water the plants haunted by them with the cold decoction of muſtard and laurel-ſeed in water; ſome waſh them

with their fingers, which is a good way, or flea-bane boiled in water, and ſprinkled, kill them.

A univerſal Remedy againſt all Animals, offenſive to flowers.

Demoeritus ſays, put 8 or 9 crabs in an earthen pot with water, and let them ſtand eight days in the open air, then take of this water, and water your plants in their infancy; repeat the ſame once in eight days, and you will find it effectual againſt all vermin.

Frogs to kill.

Theſe vermin are beſt deſtroyed in February, in the ditches where they ſpawn, by deſtroying both frogs and ſpawn.

To gather Frogs and kill them.

Take a ſheep, ox, or, goat's gall, and bruiſe it by the water ſide, and the frogs will gather to it.

Snakes and adders to drive from the garden.

Wormwood planted in divers places, they will not come near it

The roots of centaury laid about your ground, will make them depart. Or, lay dear fuet about the place, and they'll be gone.

For the bite or ſting of a ſnake or adder.

Take the juice of aſh-tree leaves ſqueezed into good white wine, or beef, and drink it, and waſh with it, then cover the place ſtung with aſh-tree leaves, and it cures you, ſays Agrippa.

Piſmires, flies, earwigs, and ſpiders, that hurt orange-trees, Carnations, &c.

Theſe are very troubleſome vermin in a garden, eſpecially where

where carnations are preſerved; for they are ſo fond of theſe flowers, that if care is not taken to prevent them, they will entirely deſtroy them, by eating off the ſweet part of the bottom of the leaves.

To prevent which, moſt people have ſtands erected, which have a baſon of earth or lead round about each ſupporter, which is conſtantly kept filled with water. Others hang the hollow claws of crabs, lobſters, &c. upon ſticks in divers parts of the garden, into which theſe vermin get; and by often ſearching them, you will deſtroy them without much trouble; which will be of great ſervice to your wall fruit, for theſe are great deſtroyers thereof. Miller's Gardener's Dictionary.

Piſmires, Earwigs, and other vermin that hurt Gardens.

In gardens are July flowers, which are ſubject to harm, both by rain and the ſun, and much watering, and from earwigs and piſmires, the rain ſpots them; the ſun withers them, by drying the ground too much; ſtrong water ſpoils them, eſpecially at the laſt of their blowing. Piſmires gnaw the flowers, and make holes in the leaves, earwigs devour the flowers, at leaſt the leaves, that they fall out of the ſhell. To preſerve them, let the ſun be upon them one hour in the day, and they will laſt long.

To prevent Earwigs and Piſmires from flowers.

Take glue boiled in linſeed oil, and lay this round your tub four inches broad, and if they go to climb up, they will ſtick in it, but if any ſhould get up, lay on the top of July flower-ſticks, paper caps, lobſter claws, with ſome wool, or tow in them, and in the morning you will find much vermin in them.

To poiſon Piſmires.

Make a box of cards or paſteboard, prick it full of holes with a bodkin, and put them in powder of arſenick & honey mingled

mingled together: hang these boxes on the trees, and it will kill them. Make not the holes too large, lest bees get in and be poisoned also.

Earth and Field Mice, Snails, and other Vermin that hurt Tulips.

To preserve tulips from vermin, cover them with wooden frames four inches high, and do them over so close with iron wires, that none of these vermin can get through to hurt them.

Snails to destroy.

Snails are great enemies to wall-fruit, and in a dewy morning you may easily find where they most delight to breed; but the best way is to find out their haunts in a hard winter, and to rid yourselves of them. They lie much in holes of walls, under thorns, behind old trees, or close hedges.

Also observe not to pluck that fruit they have begun with, but let it alone, for they will end that before they begin with another.

Set tiles, bricks, or boards hollow against the walls, pales, &c. and they will creep under them for shelter: about Michaelmas they get to such places for security they whole winter except you prevent them by destroying them in December, which is the easiest, best and surest way to destroy them.

Snails, the Gardener's Way.

Besides what is wrote above, they seek them by break of day, or after rain, then they come out of the earth to feed, and are easily killed. You ought to keep out of gardens dogs and cats.

That Flies may not trouble Cattle.

Boil bay-berries in oil, and anoint them with it, and they will

will never ſit on cattle; or wet the hair of horſes with the juice of the leaves of gourd at Midſummer, and they will not moleſt them. If cattle are anointed with the juice of arſmart, flies will not come near them, though it is the heat of ſummer.

To prevent Moths eating Cloth.

Take beaten pepper, lay it among your cloaths, airing them well firſt, it will prevent them.

Take the branches of bay-tree, and lay among cloth and woollen, it preſerves them from moths, worms or corruption, ſo does moiſt hemp.

Laying wormwood among cloaths prevents moths from eating them.

Pieces of Ruſſia leather put in boxes, prevents moths and and all other vermin.

Moths to deſtroy.

About Auguſt they appear, and that moſtly in the night, and if you ſet a candle on an apple tree, lighted in the night, they will fly about it and burn themſelves, and you'll find abundance of them dead in the morning.

Waſps ſtinging.

Apply a copper halfpenny, and oil it for a little ſpace, and it will eat the pain and prevent ſwelling.

Worms to deſtroy.

Water wherein the leaves and ſeeds of hemp are ſodden, ſprinkled on the earth, brings them out.

Sea water, ſprinkled on the ground kills them. Or ſalt and water made into brine, and ſprinkled on the ground. Some lay, ſoot ſtrewed on the ground, kills them. Others commend chalk and lime ſtrewed on the ground.

worms

Worms in Apple-trees to deſtroy.

Lay a ſea onion about the trees, to preſerve them from worms; if they come naturally bull's gall or hog's dung mingled with man's urine and poured to the roots, deſtroys them, but if they are hard to deſtroy, the bark muſt be digged into with a braſs pin or ſuch like tool, and tended till the point takes upon the worms, and drives them from the place; but where there is a place ulcerated, ſtop it with ox dung; an apple-tree plant, the root being anointed with bull's gall, they and their fruit will be free from worms. Mizaldus.

Worms to prevent eating Cheſts of Drawers, or Wood.

Rub them with linſeed oil; or rub them with wormwood, rue, or other bitter herb, preſerves them, and all wooden houſehold ſtuff that is rubbed with the lees of linſeed oil, and poliſh'd, will look pleaſant.

POLECATS.

If you can conveniently, have a channel about your pigeon-houſe, that will preſerve them and all other fowl, for no beaſt of prey will take the water.

Some make a dead fall to take them, which is made of a ſquare piece of wood, weighing 40 or 50 pounds; th y bore a hole in the middle of the upper ſide, and ſet a crooked hook faſt in it; alſo they ſet four forked ſtakes faſt in the ground, and there lay two ſticks acroſs, an which ſticks lay a long ſtaff to hold the dead fall up to the crook, and under this crook they put a ſhort ſtick, and faſten a line to it; this line muſt reach down to the bridge below; and this bridge muſt make about 5 or 6 inches broad. Then ſet on both ſides of this fall, boards or pales, or hedge with cloſe rods, and make it ten or twelve inches high; let the paſſage be no wider than the fall is broad.

BADGERS

BADGERS.

Badgers are pernicious creatures, and deſtroy young lambs, pigs and poultry.

Some take them in ſteel traps, or a ſpring, as foxes are taken.

Some make a pit-fall five feet deep, and four long, making it narrow at the top and bottom, and wider in the middle; then cover it with ſome ſmall ſticks and leaves, ſo that he may fall in when he comes to it; ſometimes a fox is taken thus.

Others hunt the badger to his hole in a moon-light night, and dig him out.

Foxes to deſtroy.

Foxes are great deſtroyers of lambs, poultry, geeſe, &c. To deſtroy them, take a ſheep's paunch, and lie it to a long ſtick, then rub your ſhoes well upon it, that they may ſcent your ſweet feet. draw this paunch after you as a trail, a mile or more, and bring it near ſome thick-headed tree, leave your paunch, and get into the tree with a gun, and as it begins to be dark, you will ſee him come after the ſcent of the trail where you may ſhoot him; draw the trail if you can to the windward of the tree.

To take a Fox in a ſteel trap.

The beſt way is, to ſet your trap in the plain part of a large field, out of the way of all paths, yet not near a hedge or ſhelter; then open the trap, ſet it on the ground, and cut out juſt the form thereof in the turf, and take out ſo much earth as to make room to ſtay it, then cover it again very neatly with the turf you cut out: and as the joint of the turf will not cloſe exactly, get ſome mould of a new caſt up mole-hill, and put it cloſe round the turf, ſticking ſome graſs in it as it there grew; make it curious and neat, that might

even

even deceive yourſelf; ten or twelve yards from the trap, three ſeveral ways, ſcatter ſome on the mole-hill mould very thin on a place 15 or 16 inches ſquare, then on theſe places, and where the trap is placed, lay three or four ſmall bits of cheeſe, and with a ſheep's paunch draw a trail a mile or two long to each of theſe three places, and from thence to the trap, that the fox may come to one of theſe places firſt, for then he'll approach the trap more boldly: and thus you will never fail of him; be ſure let your trap be ſet looſe, that he may draw it to ſome hedge or covert, or he'll bite off his leg and be gone.

A ſpring trap for a Fox or Badger.

Bend down a ſtick in the wood, or ſet a pole in the ground where he uſes to come; much like that ſet up for a woodcock, which hangs them up. To explain it better, tie a ſtring to ſome pole ſet in the ground, and to this ſtring make faſt a ſmall ſhort ſtick, made thin on the upper ſide, with a notch on the lower end of it; then ſet another ſtick faſt in the ground, with notch under it; then bend down the pole, and let both the nicks notches join as ſlightly as may be; then open the nooſe of the ſtring, and place it in the path or walk; and if you lay pieces of cheeſe, fleſh, or ſuch like, it will entice him that way.

Fox to take.

Anoint the ſoals of your ſhoes with ſwan's fat, a little broiled, and coming from the wood, drop here and there a piece of roaſted ſwan's liver dipt in honey, drawing after you a dead cat, and he'll follow you, ſo that you may ſhoot him.

A Hook to take the Fox, tied to a Tree or Gibbet.

This hole is made of large wire, and turns on a ſwivle like the collar of a greyhound; it is frequently uſed in catching

wolves, but oftner for the fox. Then hang it from the ound ſo high, that he muſt leap to catch it; and bait it th fleſh, liver, cheeſe, &c. and if you run a trail with a ep's paunch, as before directed, it will draw him the more il, to the bait.

To take an Otter.

Otters are great deſtroyers of fiſh, and will travel in a ht ten or twelve miles; they lie under the roots of trees r the water; ſome take them with ſnares, and others ars, and ſome with hunting dogs.

Birds are no annoyance to the farmer, nor gardens, for y deſtroy more caterpillars, ſlugs, ſnails, and other ver-, that do ten times more miſchief than the do.

Fiſh to catch.

Your baits muſt ſmell well, ſuch as anniſeeds, juice of acea and cummin; 2dly, taſte well, as hog's blood, and at bread; 3dly be intoxicating, as aqua vitea, lees ine, &c. and laſtly, make them ſenſeleſs, as marigold ers, which aſtoniſhes them, ſo doth all yellow flowers lime clithimal, Nux Vomica, and nothing better than lus Indiæ.

Eels to catch.

ake ſea ſtone-work, ſea onions an ounce, mix them to-er, and throw where Eels come.

To take pikes.

ke what quantity of blown bladders you will, and tie a to the mouth of them, longer or ſhorter, as the water is pth; bait your hook artificialy, and the pike will take d make you ſport; the ſame may be done by tying your to the leg of a duck or a gooſe.

Fiſh to bring together.

Boil barley in water till it burſt, with liquorice, a little mummy and honey; then beat them together to a paſte, and throw little pellets, when it is almoſt dry, where fiſh are, and it will bring them together. Or horſe fleſh dung thrown into the water does it.

To take a pike as ſhe lies ſleeping and ſunning in fair weather.
with a loop or a net.

March and Auguſt is the beſt time. Take a long pole or rod that is light and ſtraight, on the ſmall end faſten a running loop of twiſted horſe-hair and ſilk, or made of wire of a large compaſs, which gently draw on him; and when it is five or ſix inches over his gils, hoiſt him up; if it is a ſmall pike draw it not ſo far on, make no noiſe in walking or ſpeaking; if he lies that you cannot conveniently nooſe him, touch his tail with the rod, and he will turn as you pleaſe; alſo with a hand-net, putting it gently under water, guide it juſt under him, and then do it as quick as you can.

To catch fiſh.

Take occalous Indiæ, and ſome wheat flour, and with ſweet wine, milk or mead, make a ſtiff paſte, then make pellets, and throw them where fiſh are, and when you may take them with your hands. Or, take aſſa fœtida, flour, milk and honey make it into a paſte, and bait your hook with it.

Fiſh to fox.

Take hartwort and unſlacked lime beat ſmall, throw into the water when calm, and it will make them drunk, that you may take them with your hands.

Fiſh. take elder leaves, ſavory, thyme, of each a like quantity; then take ox or ſheep's ſuet and lees of wine, be

beat them in a mortar, and throw little pieces into the water an hour before your fiſh.

Fiſh, Take cocculus Indiæ, old cheeſe, cummin-ſeed, and wheat-flour, a paſte with brandy, and throw pieces in as big as a pea, and they that eat it you may take.

To take fiſh with your hand.

Get nettles and cinque-foil, ſtamp them together with hoeſeleek juice, then take them in your hand and ſtir in the water. and the fiſh will come to you. Or take occulus Indiæ, ſoft cheeſe, honey, and crumbs of white bread ; make it into paſte, and throw it into the water,

Fiſh, Get, ſheep-ſuet and Garlick, mix it with wheat or barley flour, and with wine make it into a paſte ; throw it into the water; and you may take fiſh with your hands. Some take elder leaves, wild majoram and thyme, all dried, and mix ſheep's blood with them ; then dry them in an oven, and throw lumps into the water.

Fiſh. Get unſlacked lime, and mingle it with birthwort beat ſmall, and caſt it into the water, the fiſh will greedily eat it, and turn on their backs, but they are not the worſe for eating. Or with the juice of dragonwort aneint your hands, and they will come to it. Or, oil of camomile put to your bait, does it.

Fiſh. Get a quarter of an ounce of oriental berries, cummin ſeed and aqua vitæ, each a ſixth part of an ounce, cheeſe an ounce, wheat-meal three ounces : make little pellets and throw where the fiſh are.

BIRD-LIME

Stuff prepared after differant ways : The common method is to peel a good quantity of holly bark about midſummer, fill a veſſel with it, put ſpring water to it : boil it till the grey and white bark ariſe from the green, which will require twelve hours boiling : then take it of the fire, drain the water well from it, ſeparate the barks, lay the green bark on the ground in ſome cool cellar, covered with any green rank weeds, ſuch

as

as docks thiſtles, hemlock, &c. to a good thickneſs; let it li fourteen days, by wich time it will be a perfect mucilage then pound it well in a ſtone mortar till it becomes a toug taſte, and none of the bark be diſcernable: next after waſh i well in ſome running ſtream, as long as you ſee the leaſ motes in it: then put it in an earthen pot to ferment, ſcum it four or five days, as often as any thing riſes, and when no more comes change it into an earthen pipkin, add a third part of capon's or gooſe greaſe to it, well clarified, or oil of walnuts, which is better, incorporate them on a gentle fire, and ſtir it continually till it is cold, and thus it is finiſhed.

How to uſe Birdlime.

When lime is cold, take your rods and warm them a little over the fire: then take your lime and wind it about the top of your rods, then draw your rods aſunder one from another, and cloſe them again, cotinually plying and working them together, till by ſmearing one upon another, you have equally beſtowed to each rod a ſufficient proportion of lime.

Of taking ſmall Birds which uſe Hedges and Ruſhes, with Lime Twigs.

The great lime-buſh is beſt for this uſe, which you muſt take after this manner: cut down the main branch or bough of any buſhy tree, whoſe branches and twigs are long, thick, ſmooth, and ſtraight, with out either pricks or knots, of wich the willow or birch tree are the beſt; when you have pickt it and trimmed it from all ſuperfluity, making the twigs neat and clean, then take the beſt birdlime, well mixed and wrought together with gooſe greaſe, or capon's greaſe, which being warmed, lime every twig therewith within four fingers of the bottom

A Secret to hinder Pigeons from quitting a Pigeon-houſe.

Take the head and feet of a gelt goat, and boil them together till the fleſh ſeparates from the bone; take this fleſh and boil it again in the ſame liquor, till the whole is conſumed; bruiſe into

into this decoction, which is very thick, ſome potter's earth, out of which you are to take all the ſtones, vetch, dung, hemp, ſoot and corn; the whole muſt be kneaded together, and reduced to a paſte or dough, which form into ſmall loaves about the thickneſs of two fiſts, and dry them in the ſun or oven, and take care not to let them burn; when they are baked, lay them in ſeveral parts of the Pigeon-houſe, as ſoon as the are ſet there, the pigeons will amuſe themſelves with pecking them, and finding ſome taſte therein which pleaſes them, they will keep ſo cloſe to it that they will not afterwards leave it but with regret. Others take a handful of ſalt, which they candy, and afterwards put it into the pigeon-houſe, Some take a goat's head and boil it in water, with ſalt, cummin, hemp & urine, and then expoſe it in the pigeon-houſe, which amuſe the pigeons. Laſtly, there are thoſe who fry millet in honey, and add a little water thereto, to prevent its burning: this preparation is a repaſt to them, and cauſe them to have a ſuch an affection for their ordinary habitation, that the will far from abandoning it themſelves, that they will draw ſtrange pigeons to it.

Birds and Fowls of all Sorts to take.

Get ſeeds (all ſorts that ſo I love) and lay it to ſoak in lees or mother of wine; ſtrew it where the come and it will fox them, ſo that you may catch them with your hands.

Birds to keep from Fruit.

Hang a bundle of garlick on a branch of a tree, or lay it in your corn ſtalls, and they will not touch your fruit. Some ſmeer their tree branches with juice of garlick.

BOOK VI.

The ART of PAINTING in OIL.

To which is added,

The whole Art of Gilding with Gold and Silver, and mixing Water-colours, &c.

A Catalogue of the ſeveral Colours uſed in Painting with Oil

WHITES.

THE principal of all whites is white lead.

Of this colour there are too ſorts, the one call'ed ceruſe,

ruſe, which is the moſt pure and clean part, the other is called by the plain name of white lead.

BLACKS.

Lamp black.
Lamp, or candle black.
Ivory black.
Willow charcoal.

REDS.

Vermilion is the moſt delicate of all light reds, being of itſelf a perfect ſcarlet colour;

Lake, eſpecially the richeſt ſort, is the beſt of all dark reds, being a moſt pure crimſon.

Red lead is the lighteſt of all reds now in uſe; it is a ſandy harſh colour, and ſuch a one as is not eaſily ground very fine, altho' you beſtow much labour on it.

Spaniſh brown is a dark, dull red, of a horſe fleſh colour; it is an earth, it being dug out of the ground, but there is ſome of a very good colour, and pleaſant enough to the eye conſidering the deepneſs of its colour: it is of great uſe among the painters, being generally uſed as the firſt of priming colour, that the lay upon any kind of work, being cheap and plentiful, and a colour that works well, if it be ground fine, as you may do with leſs labour than ſome better colours do require; the firſt ſort is the deepeſt colour, and free from ſtones; the other ſorts are not ſo good as to give a colour to the eye, but yet the ſerve as well as any others for a priming colour.

YELLOWS.

Yellow oaker is of too ſorts, one called plain oaker, the other ſpruce oaker, the one is much lighter colour than the other.

Pink Yellow.

Orpement is that colour which ſome call yellow arſenick.

Maſticote

Maſticote is a good light yellow for moſt uſes, eſpecially in making greens, of which ſeveral ſorts may framed out of this colour, being mixed with blue.

GREENS.

Verdigreaſe is the moſt uſefull green of all others.

Green bice is of a ſandy nature, and therefore not much uſed; green verditer is of a ſandy colour; neither of them bear an good body, and are ſeldom uſed but in landſkips, where variety is required.

BLUES.

Blue bice bears the beſt body of all bright blues uſed in common work, but it is the paleſt colour.

Blue verditer is a colour of no great body but ſomething ſandy, and of no very good colour itſelf, being apt to turn greeniſh, and being mixed with a yellow makes a good green.

Indigo is a dark blue, if worked by itſelf, to remedy which, whites are uſually mixt, and then it makes but a very faint blue.

Note, that the longer colour is ground, the more beautiful and fair it looks.

Smalt is the moſt lovely blue of all others.

Note, that of this colour there are two ſorts, the fineſt is that which is called oil ſmalt.

Umber a colour that realy has no affinity with the others above-mentioned, being neither white, black, red, yellow, blue or green, yet it is a colour of as great uſe as any of the reſt in common painting.

How to make a Size to gild both with Gold and Silver.

THE oporation is thus for making of gold ſize; take yellow oaker, and grind it on a ſtone with water till it be very fine, and afterwards lay it on a chalk ſtone to dry: this is the common way: or you may waſh your oaker, for when it is waſhed, to be ſure nothing but the pureſt of the colour will

will be uſed; and beſides, it is done with leſs daubing.

When your oil and oaker are thus prepared, you muſt grind them together as you do other oil colours, only with fat drying oil, but it is ſomewhat more laborious, and muſt be ground very fine, even as oil itſelf: for the finer it is, the greater luſtre will your gold carry that is laid on it

Here note, that you muſt give it ſuch a quantity of your fat oil, that it may not be ſo weak as to run when you have laid it on; ſo ſtiff that it may not work well; but of ſuch a competent body, that after it is laid on, it may ſettle ſmooth and glaſſy, which is the chief property of good ſize.

Silver ſize is made by grinding white lead with fat drying oil, ſome adding a little verdigreaſe to make it bind.

The practice of oil colours, and painting timber work after the manner of common painting.

THAT which I call common painting, is only the way and manner of colouring all manner of wainſcots, doors, windows, poſts, rails, pales, gate, border-boards for gardens, or any other materials that require either beauty or preſervation from the violence of rain, or injury of weather; the method of doing which, I ſhall lay down as plain as I can. Suppoſe then, that there be a ſet of palliſadoes, or a pair of gates, or ſome poſts and rails to paint, and I would finiſh it in a ſtone colour; firſt look over the work, and take notice whether the joints be open in the gates, or whether ther be any large clefts in the poſts, for if theſe are not ſecured, the wet will inſinuate itſelf into theſe defects, and make a quick diſpatch in ruining the whole work; let the firſt buſineſs therefore be, to ſtop up theſe places ſmooth and even, with a putty made of whitening and linſeed oil well beaten together on the grinding ſtone, with a wooden mallet, to the conſiſtence of a very ſtiff dough, and with this let all the cranies, clefts, and other defects be perfectly filled up, and that it may be juſt equal to the ſurface of the ſtuff, then

proceed

then proceed to the priming of the work with ſome Spaniſh brown well ground and mixt with very thin linſeed oil; with this do over the work, giving it as much oil as it will drink up; this in about two days will be indifferently dry, then if you would do the work ſubſtantially, do it over again with the ſame priming colour: when this is thoroughly dry, then take the white lead well ground and tempered up, not too thin, for the ſtiffer you work it, the better body will be laid on, and the thicker coat of colour that your timber is covered withal, the longer it will laſt; let this colour be well rubbed on, and the whole ſurface of the work be ſo entirely covered, that there remains no crack or corner bare, which you may eaſily do by jobbing in the point of a briſtle bruſh; let this colouring lay, and then go over it a ſecond time, and if you pleaſe a third alſo; the charge will be a little more, but the advantage will be much greater.

This courſe is ſufficient for any kind of timber work that requires only a plain colour, whether you thus cover the work with the ſtone colour, or elſe with a timber colour in umber and white, or lead colour in indigo and white, that being the cheapeſt of the three by much; nay, I have known ſome lay over their work only with a coat of Spaniſh brown, by tempering it more ſtiff than was done for the two firſt primings, which in ſome reſpect is cheapeſt of all, and preſerves the timber perhaps as well as any. Now he that is able to bring the work thus far on, has proceeded to the higheſt pitch of that common painting that aims at preſervation beyond beauty, tho' ſomething of beauty is neceſſarily included in this alſo; but this is not all; for he that is arrived thus far, is in a fair way to other perfections in the art of painting; but the pannelling of wainſcot with it's proper ſhadows, and for imitating olive and walnut wood, marble, and ſuch like, theſe muſt be attained by occular inſpection, it being impoſſible to deliver the manner of the operation, by precept without example, and I am bold to affirm, that a man ſhall gain more knowledge by one day's experience, than by a hundred ſpent to acquire it ſome other way.

I adviſe therefore all thoſe that deſire any inſight into this

buſineſs, to be a little curious, if opportunity offers, in o
ſerving the manner of a painter's working, not only in gri
ing his colours, but alſo in laying them on, and worki
them in; in all theſe obſerving the motion of his hand
manageing any kind of tool, and by this means, with a lit
imitation, joined to the directions here given, I doubt n
but in a ſhort time you may arrive to great proficiency in t
buſineſs of common painting.

Note, That if when you have made uſe of your colour
there be occaſions for a ſmall ceſſation till the work is finiſ
ed; in this caſe it is beſt to cover the colours in your p
with water, for that will prevent their drying, even in the h
teſt time.

And ſo your pencils, they ought ſo ſoon as you have do
working, to be clean aſhed out in linſeed oil, and the
in warm ſoap ſuds: for if either oil or colours be once dri
in the bruſh or pencil, it is ſpoiled for ever.

It has been obſerved, that timber laid over with white wh
is has ſtood ſome time in the weather, the colour will cru
and ſhrink up to ether juſt as pitch does, if laid on a
thing that ſtands in the ſun; the cauſe of this is, that the c
lour was not laid on with a ſtiff body, able to bind itſelf
firm and faſt.

If you ſhall have at any time occaſion to uſe either bruſh
that are very ſmall, or pencils, as in many caſes there will
occaſion, you ought then to diſpoſe of the colours you
upon a pallet, (which is a wooden inſtrument, eaſy to be h
at any colour-ſhop) and there work and temper them ab
with your pencil, that the pencil may carry away the more c
lour: for you are to note, that if a pencil be eaſily dipt into
pot of colour, it brings out no more with it than what han
on the outſide, and that will work but a little way; whereas
you daub the pencil about the colour on the pallet, a good qu
city of colour will be taken up in a body of the pencil; a
beſides all this you may work your pencil better to a point
a pallet, than you can do in a pot; the point of a pencil bei
of the greateſt uſe in divers caſes, eſpecially in drawing
lines and all kinds of flouriſhing.

Wh

What colours are most suitable and set of best one with another.

BY setting of best, I mean their making each other look most pleasant; for two of some particular colours put together, or one next the other, shall add much to the beauty of each other. as blue and gold red and white, and such like: but green and black put together, look not so pleasant, neither so black and umber or haw colour, and such like.

All yellows then set of best with blacks, with blues, and with reds.

All blues set off best with whites and yellows.
Greens set of well with blacks and whites.
Whites set off well enough with any other colour.
Reds set off best with yellows, whites and blacks.

Gold looks well upon a white ground, especially if the matter to be guilt be carved.

Gold and black shews also very well.

So does gold and horse-flesh colour, made with the brightest Spanish brown.

But the most glorious ground of all others for gold are the vermillion red, the small blue, and the lake, laid on a light ground.

Of some Colours that arise from mixture.

Ash colour is made with white lead and lamp black: if a deep ash colour, then take the more black, if a light one, then take but little black, and most white.

A lead colour is made of indigo and white.

A colour resembling new oaken timber, is made of umber and white lead.

A flesh-colour is compounded of lake, white lead, and a little vermilion.

A buff colour take yellow oaker and white lead.
For light willow green, take verdigrease and white.
For a grass green, take verdi rease and pink.
A carnation is made of lake and white.
Orange colour, yellow oaker and red lead.

A light timber colour, mix ſpruce oaker and white, and light umber.

Brick colour, red lead, a little white and yellow oaker.

For a ſtraw colour, take white lead and a little yellow oaker.

Olive wood is imitated whith oaker and a little white, veined over whith burnt umber.

Walnut trees is imitated with burnt umber and white vein over with the ſame colour alone, and in the deepeſt places with black.

Pales and Poſts are ſometimes laid over with white, which they call a ſtone colour.

Some times poſts and pales are laid over with indigo and white, which is called a lead colour.

Window frames are laid in white, if the building be new, but if not, the generally are laid in lead colour, or indigo and white, and the bars with red lead.

Doors and gates, if painted in pannels, then the ſhadows of a white are umber and white, but if laid in a lead colour, then the ſhadows are liſted with black.

'Tis not poſſible to ſet down all thoſe varieties of colours that may be produced by mixture; they that would ſee more, peruſe Dr. Salmon's Poligrafiece, where they ſhall find great variety. But thoſe which I here have given an account of, are ſufficient for common painting.

How to gild with Gold on an oily Size, either Letters or Figures, &c.

WHatſoever you would gild muſt firſt be drawn with goldſize (the making of which has been mentioned) according to the true portion of what you would have gilt, whether figure, letter, or what ever elſe it be: when you have thus drawn the true proportion what you would have gilt, let it remain till it be ſufficiently dry to gild upon, which you ſhall know by touching it with the end of your finger, or if your finger ſticks a little to it, and yet the colour come not off then it is dry enough, but if the and muſt be let alone longer; for if you would then lay

your gold on, it would then ſo drown it, that it would be worth nothing: but if your ſize ſhould be ſo dry as not to hold your fingers as it were to it, then it is too dry, and the gold will not take; for which there is no remedy but new ſizi g; therefore you muſt watch the true time, that it be not too wet nor too dry; both extremes being not at all convenient.

When your ſize is ready for gilding, take your book of leaf gold, and opening a leaf of it, take it out with your cane plyers, and lay it on your gilding cuſhion, and if it lie on ſmooth, blow on it your breath, which will lay flat and plain, then with a knife of cane, or for want of it, an ordinary pocket knife, that hath a ſmooth and ſharp edge: with this (being wiped very clean on your ſleeve, that the gold ſtick not to it) let your leaf gold be cut into ſuch pieces or forms as your judgment ſhall think moſt ſuitable to your work.

When you have thus cut your gold into convenient forms, then take your gilding pallet, ('tis a flat piece of wood, about three inches long and an inch broad, upon which is to be glued a piece of fine woollen cloth of the ſame length and breadth) and breath upon it to make it dampiſh, that the gold may ſtick to it; with this tool take your gold (by clapping it down on the ſeveral pieces you had before cut into its forms) and tranſform it to your ſize, upon which clap down according to diſcretion, and your gold muſt afterwards preſs down ſmooth with a bunch of cotton; or a hare's foot; and this you muſt do piece by piece till you have covered all your ſize gold; and after it is fully dried, then with your hare's foot bruſh of all the looſe gold, ſo will your gilding remain fair and beautiful.

If your work be gilt be very large, open your book of leaf gold, and lay the leaf down on your work without cutting it into pieces, and ſo do leaf by leaf till you have covered quite over what you intend to gild; and if ſome particular places ſhould miſs there; take up with a ſmall bunch of cotton a piece of leaf gold, cut to a fit ſize, and clap it on, that the work may be entirely covered: if the gold be to be laid in the hollows of carved work, you muſt take it

up

up on the point of a camel hair pencil, and convey it in, and with the said pencil dab it down till it lie close and smooth.

How to gild with Silver.

IN laying on silver upon an oily size, the same method in all respects is required as for gilding with gold, save only in this, that the size, upon which silver is laid, ought to be compounded of a very little yellow oaker, the silver laid on it will look more natural, and retain its own colour better, the whiter the size is.

Note, That the common painters do now generally in gilding use more silver than gold, in most works that are not much exposed to the air, to which they afterwards give the colour of gold, by means of the lacker varnish, whose use is now so common, that if they gild any thing that stands free from the weather, they only gild with silver, and so give it the cover of gold, with a lacker varnish, made of gum lake, dissolved in spirit of wine, and laid over it.

How to overlay Wood with Gold or Silver.

To prepare this work, you must be furnished with parchment size, that is, the cutting of parchment, boiled in fair water, to a jelly, and when strained and cooled, it will prove a strong size.

When you are to use it, put as much as you shall want into an earthen pot, and make it hot, then as it is cooling, strain as much fine whiting into it as will colour it, mix them well with a clean brush, and with this mixture white your wood or frame, striking or jobbing your brush against it, that it may the better enter into the hollownesses of carved work, then give it rest that it may dry.

This done, melt the size again, and put in more whiting, to render it some degrees thicker and with this do over the frames seven or eight times, or as you see there is a necessity, and when it is dry open it with gouge no bigger than a wheat straw, the veins in the carved work that the whiting as stop-

ped

ped up, then with a fine rag and water carefully plain it over, and rub it ſmooth when dry, if neceſſity require it; and in this condition it will receive your gold or ſilver ſize. But before I proceed I ſhall teach you to make theſe ſizes.

The Gold ſize at preſent in Uſe.

Take an equal quantity of the beſt French and Engliſh bole armoniac, grind theſe fine on a marble ſtone with fair water, then ſcrape into it a little candle greaſe, incorporate and grind all theſe well together, then mix a little quantity of parchment ſize with a double proportion of water, and the buſineſs is done.

The beſt Silver ſize in Uſe.

Grind the tobacco pipe-clay very ſmall, mix with it as much lamp black as will turn it of a light aſh-colour, and to theſe add bits of candle greaſe, grind them very well together, a mixture of ſize and water, and try theſe on the corner of the frames; if it be rough in burniſhing put more oil or greaſe, and as near as you bring it to a due temper, that it may work well.

To ſize your frames, or other Matters.

To do this make the ſize blood warm, and with a fine bruſh ſtir it very well, till it is ſomewhat thin, go over the frames with it twice or thrice, yet touch not the hollow parts of the deepeſt carvings, where the gold cannot conveniently be laid, for yellow colour nearly reſembling firſt laid on, the fault will not ſoon be diſcovered; let it dry four or five hours, and then try the gold if it will burniſh on it, if not alter the ſize, and do it over again.

To lay on Gold in order to burniſhing.

Let your frame, or other matters intended, to be on an eaſle, place the leaf gold on a cuſhion, to be held in your left hand

hand with the pallet and pencil. You muſt for this work have a ſwan's quill pencil, or a larger of camels hair, this work require it, dip it in water, wet no more of your frames at a time then will take three or four leaves, make your beginning at the lower end, and proceed upward, laying on whole leaves, or half ones, as it requires; then wet ſuch another part of your work, and lay on the gold with your pencil, or cotton, gently preſſing it very cloſe; and having gilded the upright ſides, turn the frame, and proceed the ſame way with the ends, then ſurvey the ſpots and places that are omited, and cut ſmall parts of gold to cover them, when wetted, with a ſmaller pencil than before; when it is ſo finiſhed let it ſtand till the next day that time you left off.

To burniſh the Gold-Work.

Take a wolf or a dog's tooth, if you cannot get pebbles formed in the ſame ſhapes, and burniſh ſo much of the work as you deſign, leaving the ground of the carvings untouched and ſome parts, others as you ſee beſt convenient, which in reſpect of burniſhing, being rough, the better ſets it off; that which is omitted to be burniſhed muſt be matted, or ſecured with ſeed lac yarniſh, or lacker; if you deſign it a deeper, colour, then muſt your work be deepeſt, or ſet off with lacker, mixed with ſaffron and dragons blood, or the colour called oraator, and with a fine pencil dipped therein, touch the hollowneſs of the carving, and the veins of the foldages or leaves; if you fancy it is not deep enough, you may by a repetion make it ſo, and the work is done.

To lay on ſilver Size.

Warm the ſilver ſize that is newly ground and mingled with weak ſize, do it once or twice, and let it dry, and lay the leaf ſilver, if it will burniſh on it, it is prepared for the work; but if it will not, make an alteration in the ſize, and for the reſt lay on the leaf ſilver, and do as you did by the gold, and it will anſwer.

Note, as farther rules, and obſerve them.

1. Let

1. Let your parchment ſize be ſomewhat ſtrong, keep it not long, leſt it ſpoils.

2. Grind no more ſilver or gold ſize than juſt you have preſent occaſion for.

3. Ever keep your work clean from duſt, after it is ſized and gilded, or elſe in burniſhing it will be full of ſcratches.

4. Do not whiten or burniſh gold ſize in hard froſty weather, for then the whiting will be apt to peel off, and the gold flaw.

The Art of Gilding METALS.

How to prepare the Gold.

TAKE ducket or leaf gold, what quantity you deſire, obſerve to beat the ducket very thin, and put this gold with as much quickſilver as will juſt cover it into a gallipot, where let them continue half an hour, where immediately after the mixture, ſtir them with a ſtick, then ſtrain them thro' a piece of leather, ſqueeſing with your hand till you have forced out as much quickſilver as you can induſtriouſly do, ſo that what remains in the leather looks more like ſilver than gold, yet this only muſt be employed in gilding after the following manner.

To gild, with Gold, Silver, Copper, Braſs Princeſs Metal, &c.

Bruſh firſt your metal well with a white bruſh, wet it with water or beer, and bruſh on till the dirtineſs or filth be quite removed, that the gold may more cloſely join it; prepare then your quickſilver, by mixing it with a little aquafortis in a vial, three or four drops of the aquafortis to an ounce of the quickſilver, quicken your work with it, viz. Rub it over with a rag on your finger, till it appears all ſilver'd or touch'd. This done, take your prepared gold, and with a ſmall knife, or iron tool proper for the purpoſe, ſpread or overlay the whole piece, omitting no part, give it two or three little heats before you give it a thorough heat, ſo that with a hair bruſh like a comb bruſh, you may daſh and

ſpread your gold, theſe little heats making the quickſilver more ready to comply; then give it the thorough heat, which will compel the mercury or quickſilver to evaporate or fly away; then take it from the fire and with a ſcrub bruſh, untouched with quickſilver, cleanſe it as at firſt; if you perceive any untouched ſpot of quickſilver, the gold muſt be laid on it a gold, when it is cleanſed with a ſcratch bruſh, and after this manner you may heighten its colour if you ſee it neceſſary.

To heighten the colour of Gold.

Take an equal quantity of ſalt, argol and brimſtone, mix them with as much fair water as will cover the gilded metal in a ſtring, plunge in for a little ſpace; often plunging and looking as often on it as you draw it out, and when the colour is heightened to your expectation, dip it in cold water, and the work is done; you may in the foregoing manner double or treble gild, till the gold enriches it to a laſting thickneſs and colour.

To Gild Silver or braſs with Gold Water.

Take two ounces of quickſilver, put it into the fire in a crucible, and when it firſt ſmoaks, put into it an angel of fine gold, ſo immediately take it off, and the gold will be preſently diſolv'd, and if it appears too thin, ſtrain part of the quickſilver through ſuſtain, then rub the quickſilver and gold on braſs or ſilver and it will ſtick to it; ſet the braſs or ſilver on quick coals, till it begins to ſmoak; ſcratch it with a bruſh, that the mercury may ſeparate and evaporate, and leave the gold a faint yellow; then heighten it with bole, ſal armoniac and verdigreaſe; grind and temper it with water

To gild Knives, Swords, Steel, &c. with Water Gold.

Powder fire ſtone, and put it into ſtrong red wine vinegar; let it remain in it 24 hours, boil it in a gallon pot, putting in more vinegar as the other evaporates. Into this water dip the metal, and at firſt it will be black, but being dried and well poliſhed, under that blackneſs, there will be a curious gold colour.

upon

BOOK VI.

The Art of Dying, Staining, &c.

To Dye Wood a curious Red.

THE wood that takes this colour muſt be very white, and to begin it put a handfull of allum in a moderate kettle of water, and caſt your wood in it, and when well ſoaked, take it out, and put two handfuls of raſped braſil wood, and when that has boiled well, put the wood in again for a quarter of an hour boiling, and it will take the colour.

To Stain a curious Yellow.

In this caſe take the knotty aſh or bur, that is very white knotty and curled, ſmooth and bruſh it very well, and it is well warmed, waſh it over with a bruſh dipped in aqua-fortis, then hold it to the fire till it deſiſts to ſmoak. Bruſh it again when dry, then poliſh it, and varniſh it with ſeed lac, and it will be of a curious colour, not inferior to any outlandiſh yellow wood, and if you put filings or bits of metal, as copper, braſs, &c. Each metal will produce a different tincture.

To Stain or Dye Wood Black.

Boil logwood in water or vinegar, and two or three times bruſh or ſtain the wood with it when very hot: then take nut galls and copperas, bruiſe them well, and boil them in water, and

with it wash or stain your wood so often, till it be perfect black; or rather steep it in the hot liquor if you can put it in and the dye will penetrate the better.

To dye or stain Wood for inlaying of Flowers, or other things in Cabinets.

Get moist new horse dung, and squeese out the moisture through a cloath; put it into several small vessels fit for your purpose, and dissolve gum arabeck and rock allum, each the quantity of a walnut, and with these mix reds, greens, blues, or any other colour that is suitable to the work, stir them often, for three or four days; then take your wood, particularly pear tree for white, cut it into the thickness of half crowns, or so much as will suffice any inlaid work, and in a square or length, according to your desire: boil up the liquor or colours very hot, and put in the wood till the as well taken; some indeed you may take out sooner, that the colour being less strong, may agree with your party-coloured flowers, shading and the like.

To dye or stain Ivory, Bone or Horn, Red.

Soak stone lime about twelve hours in fair rain water, then pour off the water well from the settling through a linnen rag and to each pint put half a ounce of rasped brazil wood, and having boiled your materials in allum water, boil it in this, and it will give a curious tincture.

To stain Horn, Bone, or Horn, Red.

Prepare your materials by first boiling in allum water, then grind the common thick verdigrease, or spanish green, a moderate quantity, adding as much sal ammoniack, and put them into the sharpest wine vinegar, as also the materials you intend to stain, and keep them there till they have taken a good tincture.

To stain or dye Horn, Box or Ivory, a curious Black.

To do this, put small pieces of brazil wood into aquafortis and so continue them till the appear green; then wash well your

your materials in them, and boil log-wood in water, into which put them whilſt they are warm, and in a little time the ivory, &c. will be of a curious black, ſo that being poliſhed, it will look like ebony or japan; and if you would have any part for flowers or the like, remain white draw before ſtaining with turpentine varniſh, and the black will not touch them, and clear with oil and lamp black.

To ſtain Skins green.

Bruiſe a good quantity of the leaves of nightſhade very well, diſſolve in the juice well ſtrained out about two ounces of allum, then put in about half an ounce of verdigreaſe, ſuffer them to ſtand over a gentle fire twenty-four hours, then warm, dip in a bruſh, and ſtrike over your ſkins; let it dry and repeat it till it has taken a pleaſant green.

An approved Way to colour White Leather.

Theſe ſkins muſt be hung in chalk or lime water, that the wool or hair may be entire ſtripped off, and they become ſupple, ſtretch them ſmooth on tenters, bruſh them over with allum water very warm, and ſo tincture them with the colours you deſign, ſuitable to your purpoſe.

To put a curious Black on Leather.

Take two pound of the inward bark of an old elder, the like quantity of the ruſh of filings of iron, put theſe into two gallons of rain water, and cloſe them tight up in a pound of nut gall bruiſed, a quarter of a pound of copperas, let them ſimmer a conſiderable time over a fire, after and twenty-four hours ſtanding, and often ſtirring, pour out the liquid part, and go over leather with it warm, and it produceſs a curious German black.

To colour Leather a bright Red.

Dip your leather firſt in allum water, and rub it well therein; then take ſtale urine, boil it till it is half conſumed

conſumed, ſcum it well, and put to it an ounce of the beſt lake, raſped brazil two ounces, and an ounce of allum; add to theſe half an ounce of ſal armoniac, ſtir them well over a moderate fire two hours, pour off the liquid part, and bruſh over your ſkins with it, till it makes a good tincture, remembering ever to let the ſkins in all colours dry well between each going over with your bruſh, and your expectations will be anſwered to a very conſiderable advantage.

A curious French Yellow for Skins

Take wood aſhes and chalk, of each a like quantity, and when you have made a good lay with rain water, ſtrain out the fineſt part, and ſet it over the fire, then put in a ſufficient quantity of turmerick, well bruiſed or beaten to powder, and as much ſafron as may give a lively tincture, let it ſtand over a moderate fire, but not boil, till it becomes pretty thick, and being warm, colour your ſkins with it.

For a deep Blue and Purple.

Strain out the juice of the elder berries, put to two quarts, an ounce of allum, half an ounce of ſmalt or indigo, ſet theſe over a gentle fire, and when warm, bruſh your leather over with this compoſition.

For a Crimſon Velvet.

Diſſolve cake ſoap in fair water and boil armoniac, each three ounces, place it over a gentle fire till the liquor grows clammy; then put a little handful of grains of cochineal, two ounces of red lead, an ounce of lake, a quarter of an ounce of vermillion, and a little piece of indigo, beat theſe over a gentle fire till they are thick as the glare of an egg; then go over the ſkin with a ſoft bruſh dip it in it, till the colour riſes to your mind.

To imitate Turkey Blue.

Take two ounces of ſmalt, a quarter of a point of red wine, half a point of vinegar, an ounce of white ſtarch; incorporate

incorporate theſe over a fire till they come to a moderate thickneſs, then ſoak the ſkin in allum water; add to the compoſition, a point of water wherein gum arabac has been diſſolved, and ſtir it well; go over the ſkins three times, drying them 'twixt whiles, ſo when well dry'd, poliſh them over to make them gloſſy.

For a Light Green.

Take the juice of the herb called horſe-tail, add to it a little allum, verdigreaſe and copperas.

To cover or dreſs Skins with Gold and Silver.

Grind brown red with a muller on a marble ſtone, add to it a little water wherein chalk has been diſſolved, and lightly go over the ſkins till they look whitiſh, and before they are dry lay on the leaf gold or ſilver a little lapt one over another, that no ſpace be found wanting; when they ſtick well to the leather and are dry, poliſh them over with ſmooth ivory, or a horſe tooth, and it will give a very glorious lutter. The ſilver you may go over with lacquer varniſh, and change it into gold colour.

Or another way, take glare of eggs or gum water, bruſh the ſkins over with it, ſo lay on your leaf gold or ſilver; doing as before.

To make Skins ſhine with Silver or Gold.

Take gum water, the glare of eggs, and the powder of antimony; grind and mix them well together, (the ſkins being dry) lay it on with a bruſh three or four times, letting them dry between every time; then burniſh them over, and they will have a curious gloſs like ſilver, which tinctured with laquer varniſh, will produce a fading gold colour.

To die Briſtles a red colour

Take half an ounce of allum, a quarter of an ounce vermillion, and an ounce of raſpt brazil wood; put theſe into a point of vinegar; ſo boil them moderate thick, and

dip

dip in the briſtles when 'tis very hot; which continuing ſome, it will be a fine red. you may make larger quantities of the liquor with ingredients proportionable, and thus die feathers.

Feathers or Briſtles, Green.

Take verditer and verdigreaſe each an ounce, put them into a point of water, ſoak the feathers or briſtles in hot water, and put them into the liquor boiling hot, and there remain untill they have taken a good colour. According to the complexion of your dyes you may make them this way any colour.

For blue let your dye be indigo and bice.

For black, galls and logwood, with a little copperas.

For purple, lake and indigo.

For carnation, ſmalt and vermillion.

For yellow, yellow berries and ſaffron, diſſolving a little tartar in your water.

For orange, turmeric and red lead: and ſo of any other colours you fancy.

Of dying Silks, Stuffs, Cloths, Thread, and other things of divers curious colours.

Take a pound of Green weed, and as much allum, bruiſe them, then pour on them fair water, and half a pound of razp'd brazil; ſet them over a gentle fire, to mix them, then put in the ſilk, ſuffering it to ſeeth therein, and ſo continue it, ſtrengthening your die, and dipping till you perceive the colour has taken well: after that rinſe it in ley of wood aſhes or oak bark, and ſo cleanſe it with fair water, then dry and preſs it.

To dye Silk a deeper Carnation.

Take white gall and allum, the herb called ſoli well dried, the quantity of a pound, two ounces of Spaniſh red, four of indian lake; boil them in fair water over a gentle fire, when they come to the height of tincture, dip your ſilks in them

them, and let them have good dippings three or four times, and the colour will take very well.

To dye ſilk Gowns red.

Let theſe be ſteeped well in allum water, then give them a gentle heat, adding in the heating bran water, a pound and a half of Green-weed, ſo heat it up and put the ſilk in it, but let it not ſeeth, then rinse in ley of wood-aſhes, after that in water, then put in your log-wood raſp'd or in powder, and to heat it up a ſecond time; ſo in dipping the buſineſs will be accompliſhed.

To dye a curious Yellow.

Take woad, the ſtalks, ſeeds and leaves, and lay them to ſoak in wood-aſhes lays, three hours, then ſetch it till it is ſufficiently ſodden, and put it into a mixture of hot water and urine, ſo beat it up, and ſtrain the liquid part through a ſieve or ſtrainer, adding verdigreaſe, and ſo boil it up with the ley already ſod, ſtirring and well mixing the liquor about three hours, and when it is very hot, dip three times.

To dye Silk a Roſe-red.

Take to every four yards and a half you intend to dye, a pound and a half of nutgalls, boil them in fair water unbruiſed two hours, ſhift the water, then put in the ſilk or linen, letting it ſoak four hours, then wring it dry, and heat it in fair water, wherein allum has been diſſolved, then put in half a pound of brazil powder, and a pound of green weed, and ſo by dipping in gentle heat, the colour will heighten.

A good black Water for Silk or Cloth.

Take an ounce of lamp black, and half a pound of nutgalls, bruiſe the latter, and put them into a bottle of water, with a handfull of filings or ruſt of iron, beat them up adding a quarter of a pound of copperas, ſeeth it to a quar-

ter of a pound cofumption, then add half a pint of gum water, and it will not only be for the preſent uſe, but keep long and be a very good black.

To dye purple.

In this caſe if you dye ſilk, you muſt take to each pound of it an ounce of allum, and a gallon of water, diſſolving the allum therein over a gentle fire, then put in the ſilk, and let it continue there about four hours, then take lake and indico, each a quarter of a pound, a quart of urine, then add a little handful of cohineal, beat them up into a dye, and dip your ſilks or fine ſtuffs into it as uſual.

To dye a very fair Blue.

Take any ſilk, ſtuff, or cloth white, and ſoak it in water, that done, wring out the water very well, and add two pounds of woad, a pound of indico, and three ounces of allum, give a gentle heat in fair water, and ſo dip till you perceive the colour to take well.

Carnation

To make this a curious light colour, Take dried purple, ſoak it in man's urine for a night, then take what you have to dye, and ſoak it in allum water twice, ſeeth the purple in fair water, and ſet another veſſel to receive the liquor and dip therein.

For a pleaſant light Red.

Boil two gallons of wheat, and an ounce of allum in four gallons of water, ſtrain it through a fine ſieve, diſſolve more allum half a pound, and as much of white tartar; add three pound of Madder, to perfect the colour, and put in your ſtuff, cloth, &c. at a moderate heat.

Black for Velvets, &c.

Take half a pound of copperas, gallon of ſmith's water,

two pounds of galls, burnt ivory, oak bark, and ſhoemakers black, each an ounce, well ground, two gallons of fair water, mix them well, and ſet them in the ſun or other warm place a month, often ſtir it, and at a moderate warmth dip your velvet, or other things deſigned for deep blacks.

To make red water for Silks or Woollen Violet, Green, Azure, or Yellow.

Take 2 gallons of fair water, four ounces braſil, and, being half conſumed in heating, remove it from the fire; then put in an ounce of grains, a quarter of an ounce of gum arabic, with a quarter of a pound of allum well bruiſed, and having ſtood all night, it may be uſed in the morning.

To *dye Woollen, Yarn, or Wool.*

Take two pounds of wool to every 4 pound of yarn, &c. and 2 gallons of water: put in 2 handfulls of wood aſhes, and when it ſeeths, put in the yarn or wool, and let it continue half an hour or more; then wring it and put it in again, and let it ſeeth as long as before, and if it were a brown blue, it will be a dark green, of a white yellow colour.

To *make Bran water.*

This is very neceſſary in dying, and therefore you ought to know how to prepare it. Do it with half a peck of wean bran to 2 gallons of fair water, and half a pound of bruiſ'd allum, over a gentle fire; ſuffer it to ſtand about a week, often ſtirring it before you uſe it.

To *make* [illegible] *ſtorry ſtorry.*

Let the ſtorry be ſoak'd 24 hours, then wring it thro' a cloth, and take aſhes of vine ſprays, with them make a ley, and upon a table ſpread the ſtorry, about two hours, put the ley into three veſſels, and ſhift the ſtorrey out of one into another, and before you put your vinegar in; ſo the ſtorry will be right, and your colour good.

To

To dye linen with Crampenade.

To three e'ls of linen uſe a pound of the crampenade, and 2 gallon and a half of water, ſo a greater quantity proportionable: ſet it over a fire till it begins to ſeeth, put in at that time two ounces of galls, then your linen, and when you take it out (which muſt be often) wring it and put it into allum water: but if you ſhould have the colour darker, 'tis requiſite to have a ley of unſlacked lime or chalk ſtone.

To dye Linen, Thread, or Cloath, a good red.

Soak a pound of ſamſleur 24 hours in two gallons of water, ſuffering it to heat over a gentle fire, and two ounces of vermillion, half a pound of raſpt braſil, and an ounce of allum diſſolved in fair water, ſo dip and order as in other things.

To dye Braſil Red on Cotton.

For twelve pounds of yarn take two pounds of allum, and two pounds of aſhes; mix hem together and put in your goods twenty four hours; take it out and waſh. Take one pound of Braſil, and one pound of Peach-wood, beat them together in 12 gallons of water, put in one gallon of urine, and four ounces of pearl aſhes, then dye your goods half hot.

N. B. Dying in the houſe improves the colour.

To dye London Red on Cotton.

Allum your cotton ſtrong 12 hours, waſh out; take ſtrong gall-liquor, put in your goods one hour, waſh out of the gall-liquor, take a ſtrong Braſil liquor, ſteep your goods 5 or 10 minuets; if a London red, put your ſpirits in the ſame liquor, let it be one hour or twelve, the longer it lies the better, and your cotton's finiſhed.

Black colour upon Silk.

To 6 pounds of ſilk take one pound of galls; boil your galls, ſteep your goods all night, the next day boil three pounds of

logwood

logwood, two ounces of verdigreaſe, and four ounces of copperas, boil the logwood and one pound of ſhumach by themſelves; put in your goods and boil them well for half an hour then take them out, and put in your copperas and verdigreaſe, and two ounces of antimony; boil it well one hour, then take it out waſh it well and finiſh it. If for damping; and to make it weigh well; take one pound of black ſoap, and one pound of fuller's earth, diſſolve them in water, put it into that, beat it on a ſtone and it is finiſhed.

To dye Cherry Red.

To one pound of ſilk, take two ounces of cudbear, boil your goods in ten minuets, then take it out, and put in two ounces of cream of tartar; if for deep claret, put in 6 ounces of common ſalt, then from theſe to the ſpirit. *Cold Vat.*

To dye blue on Cotton or Silk.

One pound of vitriol, two ounces of Spaniſh indigo, mix your verdigreaſe and indigo together, let your pot be dry before the fire when ſprung, then put in one ounce of pearl aſhes when fit for uſe, rub a little on a glaſs window, if it turns to a purple, you may dye green or blue on ſilk or woollen, if it remains blue on the glaſs, throw it out it is good for nothing.

To *dye Green Silk.*

Boil one pound of fuſtic to twelve pounds of ſilk, four ounces of turmeric, one ounce of common allum, boil them together, when boiled, mix a little of your chymical, put on oil and indigo; then turn your goods, boil them well and you will have a good green on woollen or ſilk, for darker colour, more indigo liquor, and more fuſtic as you pleaſe.

To *dye Scarlet on Silk.*

Strong allum cold 6 ounces, take out and waſh well, to 12 pounds of ſilk take one pound of arnetto, one pound of pearl aſhes, boil it well together fifteen minuets, take out and waſh well, one pound of allum, diſſolve it in as much water as will do your

your goods, which is three gallons; ſteep your goods in the ſame liquor for one hour, take out and waſh; boil one pound of braſil, when boiled, put in one pound of pearl-aſhes, when blood warm, dye your goods and waſh well, and finiſhed.

To *dye Crimſon on Silk.*

Allum ſtrong for 12 hours, waſh out, boil 2 pounds of braſil, when boiled, put in two quarts of urine, and one ounce of pearl aſhes, when blood warm dye your goods.

To *dye French Moron on Silk.*

Take 12 pounds of ſilk take one pound and half of cudbear boil it well, when boiled, put in the ſilk, boil ten minuets, take out if garnet colour, boil in the ſama liquor two pounds of common ſalt put into the ſame liquor, put in yuor goods boil ten minuets; to finiſh the garnet colour put in four ounces of cream of tartar.

To *dye Claret on Silk.*

Boil ſtrong cudbear, when boiled ten minuets, take out, put in four ounces of cream of tartar, then it is finiſhed.

Pink on Silk.

Allum your ſilk ſtrong, the next morning waſh out, boil four pounds of brazil to twelve pounds of ſilk, when boiled, put in one gallon of urine, when blood warm dye your ſilk, if not blue enough, put in a little aſhes.

Madder Red upon Cotton.

To 12 pounds of cotton, ſix gallons of water; take four pounds of allum, 4 pounds of the beſt pearl-aſhes, mix the two together, put in your cotton, let your cotton lye 24 hours then take out and waſh it in cold water, take 4 pounds of madder and eighteen gallons of water, put it into a copper, then mix your madder, turn or put in your cotton ſticks, then put a fire to your furnace, and bring it up gradually to boil for one hour, then take out and waſh, either in ſtove or in the open air.

To

To *dye Hat Lining Blue.*

Take two ounces of Spaniſh indigo, pound it in a morter, take one pound of oil of vitriol, mix your indigo in the vitriol, when mixt one hour, put in one ounce of pearl-aſhes, take a table ſpoonful of this mixture to two gallons of water, this will dye 6 yards, and the receipt will ſerve for cotton.

To *dye* Turkey *Red upon Leather.*

Take a goat's ſkin, let it be properly ſcoured with pig or ſheep's dung, pigs is preferable, then take a ſtrong allum water ſponge over your ſkin, when dry, boil a ſtrong gall liquor, as it cannot be too ſtrong when dryed; boil a ſtrong braſil liquor, the ſtronger the better; take a ſponge, dip it into your liquor, and ſponge over your ſkin; repeat this till it comes a full red: to finiſh your ſkin take the white of eggs, a little gum dragon, mix the two together in half a gill of water, ſponge over your ſkin, when dry, poliſh it with a bottle or piece of glaſs made for the purpoſe.

For Yellow.

Take a point of the ſtrongeſt whiſkey, four ounces of turmerick; mix the two together, when ſettled, ſponge your ſkin over with gum the ſame as with the red.

For Black Turkey.

Take your ſkin upon a board needs no cleaning, ſponge it over with gall and ſhumach ſtrong, then take a ſtrong logwood liquor, ſponge it over three or four times, then take a little copperas, mix it in the logwood liquor, ſponge over your ſkin, finiſh the ſame as the red.

A Turkey *Blue.*

Take two pound of Spaniſh indigo, grind it with iron balls in a pot, take a hogſhead of water, put in four pounds of copperas and the ſame quantity of lime; mix the two in the

water

water, when your indigo is well ground, mix it in the veſſel, and ſtir it well up; the third day you may dye your cotton, this quantity will dye one hundred weight.

To *kill Aquafortis for the uſe of Silk, Cotton, Linen or Woollen.*

Take one pound of aquafortis which is as pint Engliſh, and half a gill of water, put your water into a bowl, put in one ounce of common ſalt, mix it with water, then put in your aquafortis in a little green——————3 ounces will kill the pound of aquafortis, add a little tin, a little time for one hour, when boil d, put in half a gill of water, and cover it up with a cloth.

To *dye Orange on Silk or Cotton.*

Take one pound of ſilk, one ounce of arnatta, and two ounces of the beſt pearl-aſhes, boil them well together, turn in your goods, when boiled ten minuets take out and waſh well, they are finiſhed.

To *dye Buff Colour.*

Take one pound of fuſtick, and eight ounces of madder, boil them together, when boiled, run your goods through them, then take a little kill'd aquafortis and water, and waſh well, they are finiſhed.

Nankeen Colour.

Take one pound of aſhes, diſſolve them in cold water, as much as will wet 24 yards of goods; then take one pound of copperas in the ſame quantity of water, waſh your goods from one tub to another till they come to a buff green, then take out and put them over head in cold water till it comes to its colour, which may be an hour or two, the nankeen colour is the ſame proceſs by adding a little ſugar of lead to the aſhes.

Blue

Blue Vat Cold.

Take two pounds of Indigo, four pounds of lime, four pounds of copperas into a cask, grind your indigo, put your copperas into a cask of water firſt, then your lime and indigo, ſtir the whole together for one hour, the third day dye your goods.

N. B. The quantity is about 63 gallons.

Black colour on Cotton.

Take two pounds of verdigreaſe, two ounces of copperas, ten pounds of logwood, three ounces of alkaline ſalts, two ounces of oil of vitriol, mix them all together, and put in your goods, boil for four hours, take it out to cool, when cool, return to the former and boil it one hour; then take it out and waſh it well, take one pound of gallepy oil, and one pound of Spaniſh whiting; mix the two together, and put in your goods for twelve hours, then take out and waſh them well and they are finiſhed. This will ſerve for 21 pounds of cotton yarn.

To *Dye turkey Red upon cotton.*

To 36 pounds of cotton, take half a peck of ſheep's dung and half a peck of pig's dung; mix it in a tub and trample it well by a man or two boys; let it lay for twelve hours; then take and waſh it well; take two pounds of ground galls, mix them well to together in cold water, and let them lay twelve hours, then take out and dry them; take ſix pounds of Roach allum, diſſolve it in cold water, then ſteep your cotton 24 hours and take it out; take four gallons of water, and put in your goods, in twelve hours take them out and waſh them, then take and run them through your cold allum water for one hour, put two pounds of gallepy oil in a tub that holds about eighteen gallons, and three pounds of whiting; mix the whole together and put in your cotton for twenty four hours, then dry your goods, and take four pounds of allum

and four pounds of the beſt pearl aſhes mix them together in cold water and put your goods in 24 hours, dry out the next day and waſh them in warm water. To dry your goods take eight pounds of the beſt madder, put it in a copper of cold water, then put in your goods, light a fire under the furnace at the ſame time, and boil your goods for two hours, then take out and waſh and they are finiſhed.

BOOK VII.

MISCELLANEOUS ARTICLES.

To *make horn like tortoiſe-ſhell.*

TAKE a dram of lithrage of gold, half an ounce of quick-lime, mingle theſe well together, make them into a paſte with white wine, and of this make layings on horn that's thin on both ſides, being clear and dry, take it off after five or ſix hours; add tripoli and a little ſallad oil to it, and when that has lain as long, rub it off with linen cloth, ſo poliſh it, and the places where this as lain will be diſcoloured like tortoiſe ſhell.

To *make a walnut grain on white wood.*

Thinly ſpread on it 7 or 8 lays of ſtrong glue one after another each being firſt dried, and it will become ſhining; then wet a bruſh or pencil in common water, and form your knots or other ſtroke in the glue whilſt warm, ſo ſtrike hard on it with a wooden bruſh, and lay another laying of glue and poliſh it.

To *cement broken glaſs, a curious way.*

Take glair of eggs mixed with quick lime flint (i. e. flint calcined to powder) and egg ſhells; with theſe and gum ſandarach

ſandarach make a glue of cinement, and anoint the broken edges of the glaſs when it is warm, as thin as may be; place the other peices right and even on it, and ſet it to cool and to let it lie in water an hour; take of the ſuperfluous lue & the glaſs will be as firm as ever, and the cracks will not be diſcern'd but with great difficulty, by a very clear light.

To *make ſaſhes for windows as clear as Glaſs.*

Take vellum, thin parchment, or the fineſt white papers, as ſmooth on both ſides as may be' and wet and ſtretched, put it on the ſaſhes as ſtreight as you can without tearing, then let it dry gently in the ſhade; take two parts of nut oil or linſeed oil, two parts of fair water, and a little white glaſs beaten to fine powder; boil them in a gloſs body in ſand, ſet on a fire pretty near the fire, till the water be conſumed then mix and ſtrain it, and lay on very thin with a fine bruſh, but ſo that it may that it may ſoak through the paper: ſo they will be exceeding tranſparent.

To *ſoften or diſſolve horn or tortoiſe.*

Make a ley of the aſhes of burnt bean pods, ſtrong vinegar, quick lime and tarter; put in the horn in thin pieces, and in four or five hours the horn will turn to a fine jelly, or be ſo ſoft that you may work it into what form you pleaſe with little labour. The like may be done with tortoiſe-ſhell but it will not jelly; however it will be ſo ſoft that it may in a manner be moulded like wax, and very pliable to make ſmall boxes, or watch caſes, and other things.

To [illegible]

Boil a good handful of [illegible] in three diſtill'd vinegar, put in a little [illegible] and it will grow ſoft and [illegible] with great difficulty, when it is [illegible] or other fine works,

To

To *take ſpots out of ivory and whiten it a new way.*

To do this, lay the ivory in quick-lime, and pour firſt a ſprinkling of vinegar, and then water, but not too much, that the heat may not be too great to make it ſcale and grow brittle, and when it has lain 24 hours, take it out, waſh it with white wine, rub and poliſh it, and it will be marvellous white.

To *make light for lamps that will not ſmoke.*

To do this, diſtill a quart of good olive oil, and make the wick of talk, or ſtone allum, like other wicks; which is to be done by ſteeping them well in water, and they will ſpin out; and to make the oil riſe, make a great many little holes with a ſmall awl or needle he in the wick, rnd it will give a bright and curious ſteady light, without ſmoking.

To *hinder oil that is to burn from ſmoking,*

To bring this about, diſtill the juice of onions, and put a little of it at the bottom of the lamp, or whatever you burn it in, and the oil ſwimming at the top, the ſtrength of the diſtilled liquor underneath penetrating, it will hinder it from ſmoaking, and make it burn the brighter.

To *take ſpots or ſtains out of ſilks, ſtuffs, woollen, linen, alſo pitch, tar, roſin, and wax; and to recover ſtained ſilk, or linen.*

To take ſpots or ſtains out of ſilks.

Take an ounce of bay-ſalt, bruiſe it well in two or three ſpoonfuls of the juice of lemon; and a quarter of an ounce of white lead, and as much burnt alum, mix them over a gentle fire to a thickneſs, lay them on the ſtrainer.

To take ſpots out of linen.

Take two ſpoonfuls of the juice of an onion, and as much lime-juice, wet it two or three times, as often drying it by a fire; waſh it immediately in a good lather, and it is done.

A coo

A good ley to take out ſpots or ſtains.

Put half a pound of ſoap boiler's aſhes into two points of water; let them remain three days, with often ſtirring; then pour off the clear ley and mix it with fuller's earth, then ley it thick on the place, drying it in the ſun, or by a fire, and in two or three times doing, it will anſwer your expectation.

To *take ſpots or ſtains out of coloured ſilks, ſtuffs, woollen or linen.*

Take pumice-ſtone and grind it to powder, put to it ſharp vinegar and fuller's earth; let it lie on and dry, then waſh it with milk and flour of almonds.

A method to take out pitch, tar, or roſin.

Dab on this oil of turpentine, let that dry and put on more, and the third time when it is dried you may rub out the pitch, &c. for it will crumble like dirt.

To *take out oil or greaſe.*

Mix wood aſhes and fuller's earth with a little white wine, and lay it on the ſpot, when dry do the ſame, lay by the fire, and it will ſoon take out the greaſe at two or three doing.

To

To *make mint-water.*

Take two parts of mint, and one part of worm-wood, and two parts of cardus; put theſe into as much new milk as will ſoak them; Let them infuſe five or ſix hours then diſtil it as you do roſe water; but you muſt often take off the head and ſtir the water well with a ſtick. Drink of this water a wine glaſs full at a time, ſweetened with white ſugar to your taſte.

To *cure corns.*

Take beans and chew them in your mouth, and then tye them faſt to your corns, and it will cure them. Do this at night.

An excellent diet-drink, for the ſpring, to purge and cleanſe the blood.

Take of ſcurvy graſs half a peck, brook-lime, water-creſſes agrimony, maiden hair, liver wort, burrage, bu loſs, betony, ſage ſweet-marjoram, sea wormwood, tops of green hops, fumitory, of each a good handful, of ivory, hartſhorn and vello ſaunders of each one ounce; red dock roots, two ounces, purſlain, fennel, alpe agustoris of each one ounce, of raiſins half a pound, boil theſe very well in a gallon of beer, then ſtrain and ſtrain them, and put to every gallons of new beer to work together.

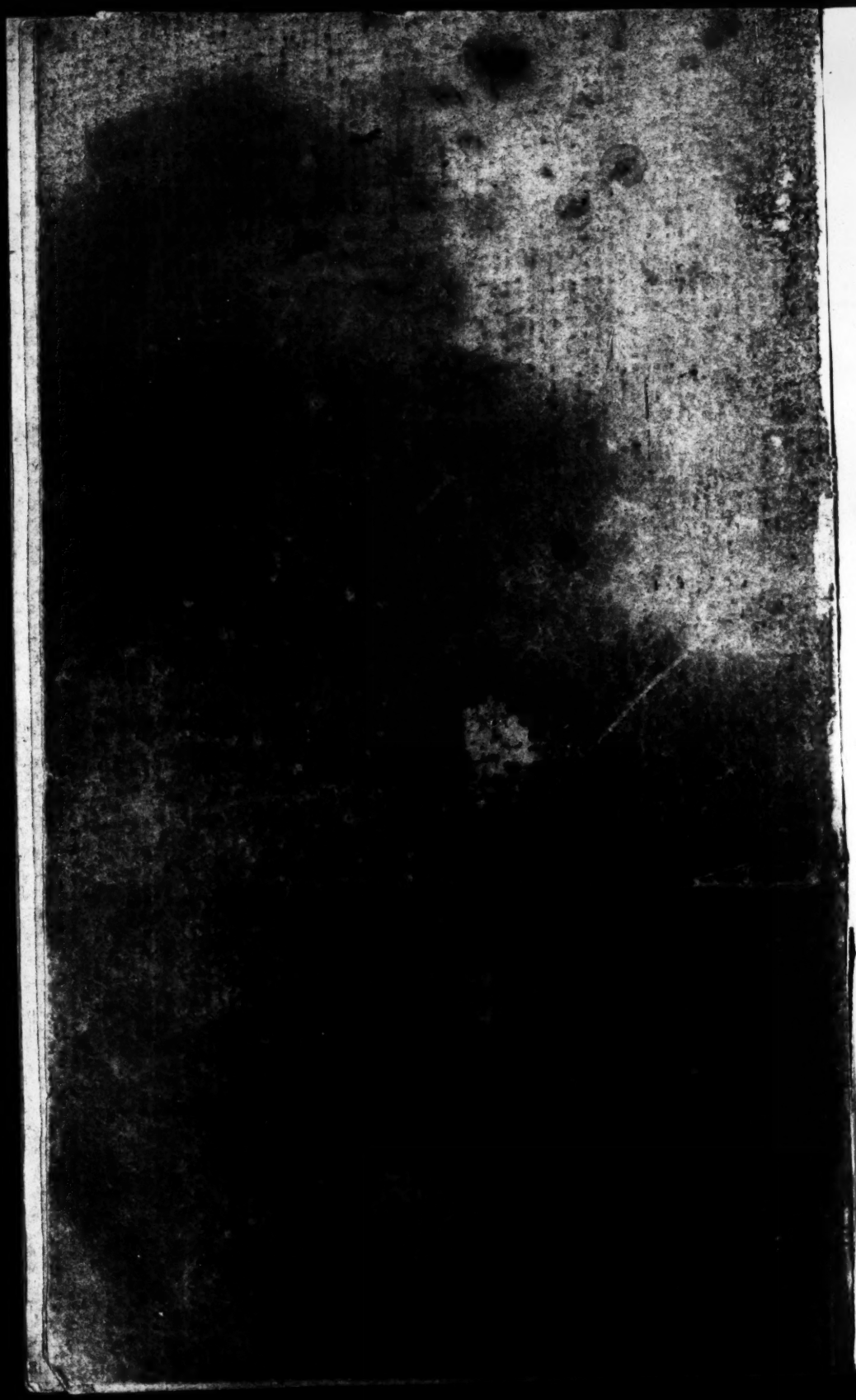
he ſeamen uſe for their ſails, double it up and rub them oundly with it, turn them firſt on one ſide and then on the ther, till th y have paſſed through three lathers; then inſe them well, and hang them out to dry with the wrong d ou wards, and when they are near dry, pluck them out with your hands, and ſmooth them with an iron on the wrong ſide.

To *make clean gold and ſilver lace.*

Take the lace from your garment, and lay it upon a ta e, and with a bruſh rub it over very well with burnt allum aten fine, till you find it to become of the right colour n ſhake it very well, and wipe it very well with a clean en cloth oftentimes over.

To *get the ſtains of fruit out of any linen cloth.*

Take them before they are waſhed, and with a little ho er rub every ſpot well, then let the cloth lie in ſcalded hot ilk a while; and when it is a little cooled, rub the ſtained laces in the milk till you ſee they are quite out, and then aſh it in water and ſoap.

How to make clean plate.

Waſh your plate firſt in ſoapſuds, and dry it; then if there be any ſpots, rub them out with fair and vinegar, then anoint your plate all over with vinegar and chalk, then lay it in the ſun or before the fire to dry, then rub it off with warm linen cloths very well, and it will look very new.